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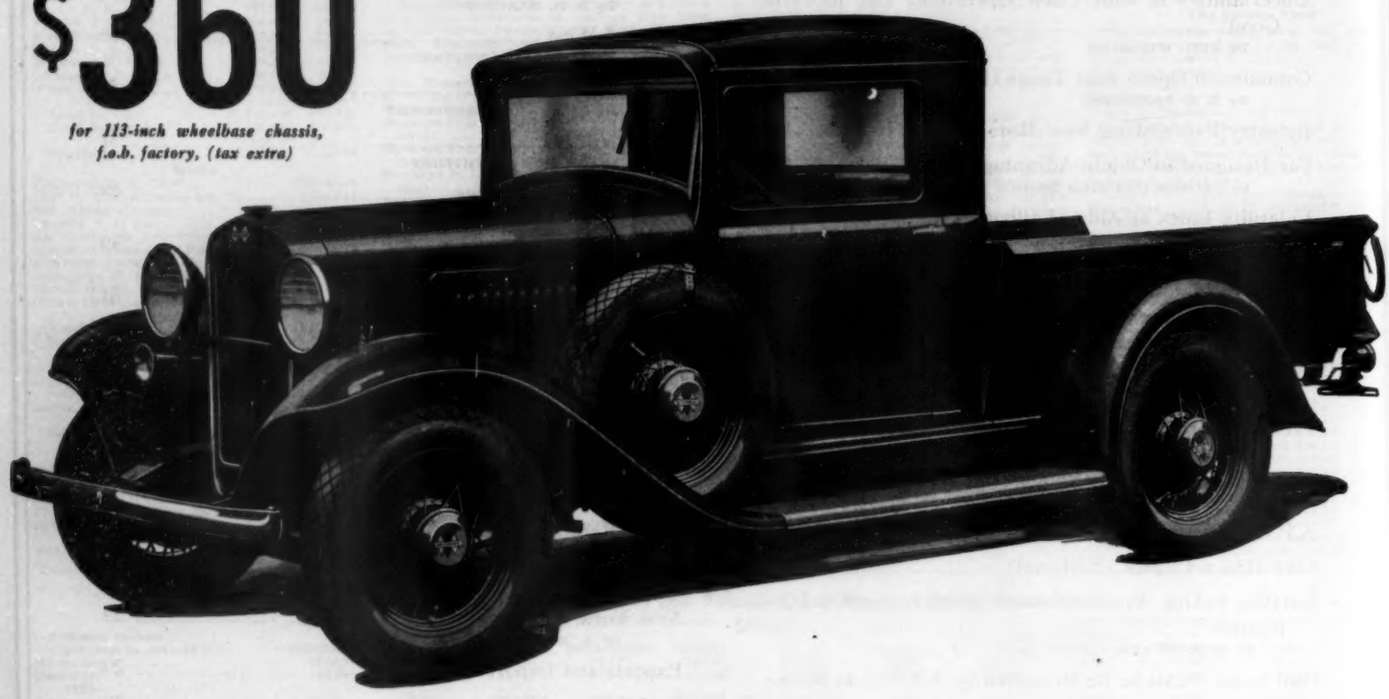

*Above:* The International Model D-1, with coupe-type cab and all-steel pick-up body, which has loading space 66 inches long and 46½ inches wide, side panels 11 inches high with 6-inch flareboards, four stake pockets, and drop endgate with covered chains.

* * * *

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**INTERNATIONAL TRUCKS**

# Unless Price Cutting and Unethical Practices Are Discontinued Another Reduction Is Probable

By ANDREW M. ROWLEY

JUST AT the time when the belief is growing general business conditions are beginning to improve, the oil business, less affected by the depression than any other major industry, seems to be doing its best to place every handicap possible in the pathway of recovery. Price cutting apparently has become a mania. In fact the price situation is so muddled it is almost impossible to determine just what is being paid for crude oil in the active areas.

As has been said so often better times will not come to the oil business until prices are raised above the distress level and held at a profitable basis. Low prices do not help anyone. Just what the industry expects to accomplish by this cut price policy is impossible to determine. Naturally every price cutter has an excuse such as "You can't blame us for buying as cheaply as possible" or "We must meet competition and our competitors are paying less than we have been paying."

With sales of the chief product, gasoline, showing a decline of only 9.2 per cent from last year and domestic demand only off 7.8 per cent from the peak figure in history, the industry certainly cannot attribute price cutting to the decrease in business. And with crude oil production in 1932 approximately 45,000,000 barrels less than during 1931, an output which lacked by about 20,000,000 barrels of being enough for requirements, there certainly is no justification for cutting crude oil prices.

One thing is certain. The industry cannot operate very long with this conglomeration of crude oil prices. Past experience shows such a situation invariably results in a lowering of the regularly posted schedules to the level established by the price cutters. If producers are willing to sell their output at distress prices, of course nothing can be done about it. But there certainly would be a stiffening of the market if a sufficient number of producers held their product and refused to sell it except at a price which would give them a profit. If they do not adopt some such plan they might as well resign themselves to another general price reduction.

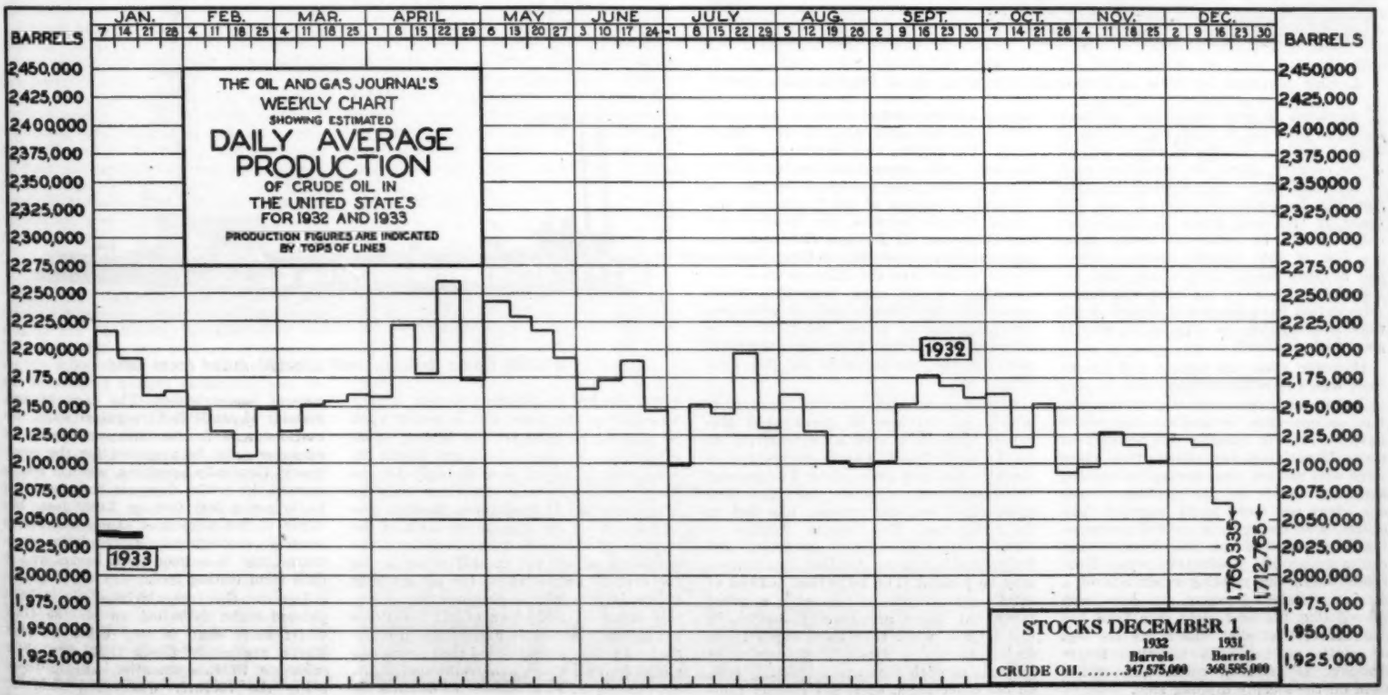
Uncertainty is the basic cause of much of the trouble. This uncertainty is caused by illegal and unethical practices with the resultant doubt in the minds of many as to how long these practices will be permitted to continue and what effect such practices will have on the general situation and the price structures.

## Crude Oil Production in the United States

Estimated daily average production for the week ending January 14 and a comparison with previous week and one year ago, follows:

| | Jan. 14 | Jan. 7 | Jan. 16, 1932 |
|---|---|---|---|
| Oklahoma— | | | |
| Oklahoma City | 102,940 | 94,215 | 103,990 |
| Seminole-St. Louis | 104,225 | 110,920 | 127,885 |
| Remainder of State | 194,195 | 194,405 | 209,220 |
| Total Oklahoma | 401,360 | 399,540 | 441,095 |
| East Texas— | | | |
| Lathrop | 114,155 | 118,325 | 112,368 |
| Kilgore | 85,743 | 85,432 | 112,086 |
| Joiner | 93,510 | 96,115 | 108,667 |
| Total East Texas | 293,408 | 299,872 | 333,121 |
| West Texas | 159,936 | 156,037 | 175,235 |
| North Central Texas | 70,962 | 72,045 | 75,028 |
| Texas Panhandle | 44,127 | 42,452 | 49,212 |
| East Central Texas | 48,325 | 49,228 | 51,152 |
| Gulf Coast—Texas | 125,515 | 127,062 | 105,662 |
| Southwest Texas | 54,662 | 57,195 | 59,036 |
| Total State of Texas | 796,935 | 803,891 | 848,446 |
| Kansas | 88,585 | 88,935 | 98,945 |
| North Louisiana | 28,495 | 29,210 | 28,710 |
| Gulf Coast—Louisiana | 36,605 | 34,735 | 27,905 |
| Arkansas | 32,200 | 32,245 | 34,250 |
| Eastern Fields | 116,000 | 116,000 | 122,000 |
| Rocky Mountain area | 66,790 | 66,311 | 81,782 |
| California— | | | |
| Santa Fe Springs | 55,000 | 55,250 | 66,500 |
| Long Beach | 67,000 | 68,500 | 78,500 |
| Playa Del Rey | 13,000 | 13,000 | 21,000 |
| Elwood | 14,000 | 13,250 | 16,500 |
| Kettleman Hills | 60,000 | 59,500 | 62,250 |
| Remainder of State | 263,000 | 259,000 | 263,500 |
| Total California | 472,000 | 468,500 | 508,250 |
| Total United States | 2,038,970 | 2,039,367 | 2,191,383 |

**Decrease 397 bbls. daily.**



# Many Hazards and Uncertainties in Gulf Coast Operations But Rewards Especially Good

By NEIL WILLIAMS

HOUSTON, Tex., Jan. 16.—There is no section of the country which presents so many hazards and uncertainties to the wildcatter, or to any operator, as does the Gulf Coast. On the other hand, there is no other section which offers the rewards that can be obtained in this area, because the high per acre recovery, marketability of oil, long life and generally well paid yield hold an attraction that is hard to find elsewhere.

These hazards, or perhaps a better term might be peculiarities, extend all the way from initial exploration for prospective areas, through drilling and development, to the actual production and marketing of oil. So elusive is the work on the coast and so irregular the operation that the majority of newcomers, following old practice, find they are beaten and often overlook the prize that might make them successful.

In the exploration for prospects, the paucity of surface indications which spurred the efforts of the pioneer is a factor which has brought about the use of machines to seek subsurface information and thus aid in lessening the risk of wildcat drilling. Unlike in other sections of the country, where the strata are more or less uniform so that drilling information can be correlated over a long distance, in this area where the surface is called recent in geological terms, there are few, if any, reliable markers which can be used safely. This means that unless the wells to be used for subsurface information have reached a greater depth than is usual there is little in the way of good data available.

However, there are certain well known lines which have had a large part to play in determining the coast line of this section at one time or another and which have resulted in forming this country as it is. Experience has shown that there were well marked seas during the various ages and due to certain conditions various areas are more to be watched than others. For example, a careful paleontological study of domes has revealed that the more prolific production comes from those where the yielding sands are of a marine nature. Further, it has been proved that the best yield in a field has come from that side which has the leg, or gently sloping side, where a larger drainage is afforded each well, rather than on the steeply dipping side.

Going a step further, the yields are greater where there is a happy medium of shales and sands, with shales as the source rock and the sands the reservoir, than in those areas where either the sands or the shales predominate. The happy medium generally is found in those areas along the shores of the old seas. Where the known lines of weakness cross old shore lines is an ideal place to try to find some elevation that might serve as the entrapment. There are certain known domes which have yet to be proved productive that are so situated, and, to operators with initiative, large fields are possible. One such dome, one of the oldest on the coast and one on which scores of tests, shallow and deep, have been drilled, is being released at this time for one of the largest and most powerful independent companies.

### Geophysical Investigation

With the aid of good geologists, coastal operators are able to save much time, effort and money by having mapped out by a careful study of the geological section a general idea of what to expect and where to core and what to core. However, too much confidence cannot be placed in this general section for the unexpected has been known to happen. At Liberty, a section of the Cretacious was found wedged between the Miocene and the Oligocene. At Barbers Hill under the salt overhang, a section of Oligocene was found folded over the Miocene as a continuation of the same formation which underlaid the Miocene and all were productive. In other words, the field of the micropaleontologists plays an important part in the development on the Gulf Coast.

There is no part of the country in which the services of geophysical machines have been used so extensively as in the Gulf Coast. Nearly every type of machine has had some place. For general reconnaissance, refraction work has been more rapid but the expense has had to be considered. The torsion balance is slower, but with proper operation and interpretation, more detailed information may be yielded. The reflection method of detailing a prospect at present is in great favor but there are certain factors in this type of work that leave much to be desired in certain areas. There are many features of each that are attractive, and, on the other hand, there are certain findings of each type that have been impossible to solve without further information from the drill or other sources. Each year brings forth a development of some such anomaly which centers interest in a particular type of picture, so that a picture which may not have meant much before now may have a solution of important value. Thus, it is possible that areas which have been worked and reworked in the past without success and sufficient information to warrant drilling may be the coastal fields of the future.

More attention must be paid to careful survey work on the coast than in any other district. Frequently the shooting or preliminary work has been tied into obscure corners or old fence lines and from that operators have become confused as to the actual location of the prospect on the ground. As an instance of this, one well was drilled three quarters of a mile off the prospect as worked out on the ground because the location was made from a natural corner instead of some well defined corner. Experienced coastal operators now are overcoming chances of these kinds of errors by a well defined tie-in between the shooting and the actual survey later which defines the actual corners. Peculiar title situations also result in considerable confusion in coastal operations.

### Much Development Needed

Selection of a prospect and completion of a block, although sometimes a laborous, uncertain and costly undertaking in itself, is only a small part of the development of actual oil production. A prospect with a well-worked geophysical picture is very valuable on the coast and is looked upon as a potential field yet the finding of oil oftentimes involves a long and costly development program possible only by the larger companies and sometimes only by a combination of companies. Modern geophysical work has eliminated much of the element of chance and has facilitated the discovery of oil but it still remains for the drill to locate where the oil actually exists. It generally is assumed that every salt dome is productive of oil but there are so many places on and around a dome that oil might be concealed that operators might drill all around the right spot without finding it. In a number of discoveries of the past several years production has been opened by comparatively little drilling, which has given impetus to coastal exploration, but little has been mentioned about the prospects, and even known domes, where drilling has been going on unrewarded. There are a number of old domes on which no commercial production has as yet been found although these have been drilled extensively. However, in nearly all instances sufficient showings are found to spur the operators to further development.

An illustration of how important salt dome production might be passed up is given in the development within recent years of prolific production underlying salt "overhangs" found on a number of domes. Before this the drilling into salt was thought to mark the end and when production was not found overlying the salt the acreage was condemned and drilling moved elsewhere. It now is possible that on many domes, operators so far have missed the most valuable source of production.

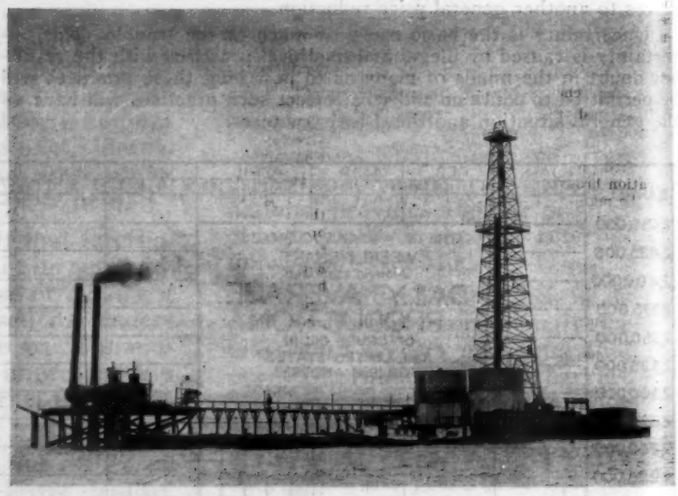
### Must Have Good Equipment

The Gulf Coast is one district in which "just any kind of equipment" cannot be used. The hazards of drilling here are such that only the best equipment is adaptable and along with this comes the question of getting drillers experienced in this particular territory. The peculiar character of formations which encourage fast drilling oftentimes are a disadvantage and bring about disastrous consequences unless equipment is adequate and drilling is handled by men accustomed to coastal eccentricities. The lack of uniformity of sands and irregularities in formations lead to the unexpected and the operator must be prepared for the emergency. Generally speaking, when a test is started the driller does not know whether he is going 500 feet or 7,000 feet. Because of the numerous sands and lenses usually encountered, a requisite on a coastal rig is a good core barrel and a drill stem testing tool.

Due to the irregularities, the micropaleontologist is relied on on the Gulf Coast more than in any other district. There are many fields that owe their existence to this scientist, among them being the recently discovered field at

(Continued on Page 36)

*Living quarters for crew on a coastal Louisiana marsh land development*



*A Gulf Coast drilling well located miles from land*

# Commission Opens East Texas Hearing at Tyler by Questioning Purchasers and Pipe Lines

By L. E. BREDBERG

TLYER, Tex., Jan. 14.—Lloyd Wheelock, J. G. Puterbaugh, and C. A. Lester, members of the East Texas Producers and Royalty Owners Association, appeared before the three members of the Railroad Commission in a private conference Friday evening and recommended that appointment of an enforcement agency be made to relieve the commission of the work of enforcing proration in the East Texas oil field. They suggested that Homer Pierson, now head of all commission men in the field, and two other men be appointed to take over the work of tracking down proration violations, and be given authority to "hire and fire" all commission personnel in the field.

Col. E. O. Thompson, commissioner, was highly opposed to such a plan, saying that "the commission is elected by the people to do this job; it is doing it and will continue doing it. There will be no committee and proration will continue to be directed from Austin, where authority has rested and will rest. Of course, we want co-operation of the operators in this section, but we'll get the job done without appointment or any control committee."

Mr. Thompson said the committee which appeared before the three commission members expressed dissatisfaction with enforcement and said "the job isn't being done." Nothing developed to show any concrete opposition to present proration orders, he said.

He also said he considered all present commission employes in the field entitled to a "clean bill of health" as to their loyalty and efficiency in general. He said they had been doing their duty in the field, and there was no necessity to proceed with any investigation concerning employes.

Before the hearing is ended at Tyler he said the commission would be ready to hear any charges against its personnel.

He stated the present hearing had brought out nothing new, that the attorney general's department and commission had acted on every material violation of proration brought out in the hearing, but that the main purpose of the hearing was to let people see what had happened in the past.

The three-day investigation adjourned until January 19. With many company witnesses, small operators and others subpoenaed, and with records and witnesses of only one purchasing company having been scrutinized during the past three days, it looks as if the commission has opened a hearing that would consume many weeks.

### "Fortress of Gladewater"

One well, owned by the P. & G. Oil Co. of Gladewater, commanded the attention of the commission almost all of the first day. This is one well out of approximately 9,500 in the field, but was singled out because of alleged violations, and because it has a concrete house erected around it, making it difficult to inspect, according to commission field men.

G. M. Cosby, commission investigator and K. M. Knox, another commission employe, were questioned by attorneys for the commission, and by Attorney Fisher, representing the P. & G. Oil Co.

Mr. Cosby described the outlets from the "fortress of Gladewater" well, as it is commonly known in the field, showing how oil could be run to stock tanks, the V. O. E. refinery and other tanks nearby. He also testified as to violations in overproducing the well, the last time named as January 1 and since new proration orders became effective. Drawing heavily on the well at various times was said to have lowered the pressure on a north offset well owned by the Magnolia Petroleum Co.

The concrete structure around the well made it difficult for the commission to check the well, according to Cosby. When the inspectors would ask to get into the well to inspect it, he said, the valves would be turned, thereby shutting in the well before the inspectors could determine what rate it was flowing. However, he said, the pipes would still be hot, attesting that it had been producing at a high rate.

Cosby also stated that gauging of stock and storage tanks had been made difficult, and that men at the V. O. E. refinery had also made it difficult to check production from the well and at their plant.

During the examination of Cosby it was brought out that the attorney general's department had tried several times to obtain injunctions and other orders in connection with the well's operation, and also had sought injunctions against the V.O.E. refinery, Attorney General Allred himself rising to say that the sheriff of Gregg County was levying on the plant for the second time, January 12, the plant to be sold as result of a $30,000 tax evasion suit.

One other enclosed well in the Gladewater area was also caught overproducing, according to Cosby's testimony, and when asked if he knew of other violations in the field he said, "Yes, several." He also testified as to gauging properties of major companies.

### Violations Reported

K. M. Knox, second commission witness, read reported violations by 98 operators and companies. He also named suits against companies to compel them to install meters on their lines. These companies were: V.O.E. Refining Co., Longview Gathering System, Butler-Calhoun, Overton Refining Co., Kilgore Refining Co., and Cherokee Chief Oil Co.

It was brought out that the majority of the between 700 and 750 operators in the field were willing and ready to cooperate with the commission in the enforcement of its orders, but that others had not, and that action had been taken by the attorney general's department against the 98 violators, except where injunctions prevented that body from acting.

Attorney General Allred, who took an active part in examination of witnesses, suggested the inquiry be broadened to include the questioning of representatives of all pipe line companies as to the quantity of oil transported by them from the field. "If we are going to get at this thing, we need to check up on all pipe lines," he said. "We want to know how the oil is getting out of the field, and how much."

### Questioning Purchasers

The commission followed his suggestion, leaving the "little fellows" for the time being and questioning the major purchasers and pipe line companies. The Atlantic Oil Producing Co. and Atlantic Pipe Line Co. were the first in line, and William Irish, III, of the crude marketing department of the former company, was put on the stand. Tom Pollard, representing the East Texas Producers and Royalty Owners Association, working in conjunction with the attorney general's department, Attorney General Allred and Jack Blalock of Marshall questioned these witnesses, focusing their attention on contracts made between the Atlantic Oil Producing Co., Golding and Murchinson of Dallas and the American Liberty Oil Co.

Attorney S. M. Leftwich, council for the two companies, objected to many of the questions propounded to Mr. Irish, the majority of which were overruled by the commission.

In questioning Mr. Irish about contracts between his company and Golding and Murchinson and American Liberty Oil Co., the subject of price aroused a sharp argument between Attorney Leftwich and Attorney Pollard, but was ended when the objection of Mr. Leftwich was overruled by Commissioner E. O. Thompson, who said the question of price was very pertinent in this trial.

Contracts read showed the Atlantic Oil Producing Co. had advanced money to the other operators and had paid 20 cents per barrel below the posted price for a part of the production named in the contracts, other production from the leases calling for the posted price. Other oil was named as bringing only 50 per cent and as low as 43½ per cent of the posted price, under these contracts.

Colonel Thompson asked Mr. Irish: "Are you not encouraging the selling of oil below the market price? This strikes at the very heart of the whole situation in East Texas."

Attorney General Allred then assumed the questioning of Mr. Irish.

"Who negotiated with Golding and Murchinson?" asked Mr. Allred. "Did you deal direct?"

"Yes."

"Were you in favor of the market demand law recently passed by the Texas Legislature?"

The witness replied that it was all right if it did not affect price.

### Other Contracts Up

Mr. Irish was asked if it was not unusual to buy oil in such a manner, and if he knew of any other company doing it. He answered that he had not.

Other contracts were then brought up, oil being "loaned" by the Atlantic Oil Producing Co. to Golding & Murchison, to be delivered on the Gulf Coast and shipped in tankers. The "loaned" oil was to be returned by Golding & Murchison out of allowable oil, and they were to pay transportation charges on the "loaned" oil, these payments going to the Atlantic Pipe Line Co.

A detailed examination of the Atlantic Pipe Line Co.'s oil movements, storage and transportation records was then launched by Jack Blalock, special assistant to Attorney General Allred. J. H. Wood of the company was questioned in an effort to show a discrepancy of more than 1,000,000 bbls. somewhere in compilations by Mr. Wood as to total oil received by the company during the period from September 1, 1931, to January 1, 1933.

The hearing Friday ended during this argument, Mr. Wood advising he would obtain further records and reports.

Earlier, H. M. Hornsby, investigator and accountant for the commission, testified as to reports shown on audit of runs by the Tyler Pipe Line Co., from one of leases under contract between the Atlantic Oil Producing Co. and American Liberty Oil Co., over 40,000 bbls. overproduced oil showing under this audit, the oil being taken by the Atlantic Pipe Line Co.

Attorney Leftwich interrupted to say that the company had gone to Austin to discuss this matter with the railroad commission, but that due to the Federal injunction then in force against the commission that body could not and did not advise as to what to do with the over allowable oil held in the Atlantic's tanks.

Colonel Thompson interposed that, "This hearing was called to check just such instances as this, where oil was taken from a producing company by a pipe line company, and find what was done with the oil."

### To Resume January 19

The hearing was concluded Saturday with attorneys representing various land, producers and royalty owners associations in East Texas, aiding the attorney general's department, seeking to bring out overproduction by leases to which the Atlantic Pipe Line Co. was connected, and the overrunning of oil above the allowable by the pipe line company which was connected to the Atlantic line.

Men connected with the Atlantic Oil Producing Co. and Atlantic Pipe Line Co. were on the stand all day Saturday and will be recalled when the hearing is resumed on January 19.

There were over 700 operators, royalty owners, company men, landowners and

(Continued on Page 23)

## Development on a Dome Located in Coastal Louisiana Swamps

# D-X GIVES JOBBERS A "NEW DEAL" FOR 1933

D-X

Successor to Gasoline

LUBRICATING MOTOR FUEL

## GALLONAGE INCREASES
### of More Than 50% Proved by Actual Test

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## MID-CONTINENT PETROLEUM CORPORATION

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CHICAGO OMAHA TERRE HAUTE WATERLOO

# Industry Establishing New Motor Fuel Standards

By W. T. ANDERSON

The manufacturing and marketing branches of the oil industry are rapidly moving into new standards of specifications for their most important product—gasoline.

The fact that the oil industry can do this during a period of depression, not alone in its own business but in business generally, shows that it is moving forward and not standing still and is to be interpreted as a highly encouraging departure.

Within the past few weeks a large number of companies have introduced new gasolines through their marketing departments, incorporating new specifications which make their product better adapted to the requirements of the modern automobile engine.

Outstanding in the characteristics of this improved motor fuel is volatility.

The aim in this new gasoline is to attract new customers by giving superior performance, which means not only wider markets for the companies concerned but tends to strengthen the business of the whole industry.

The importance of this development is readily apparent to anyone who has made even a cursory investigation of the future outlet for motor fuel.

Automobile engineers in endeavoring to stimulate a slow market for their cars are incorporating every factor to attract buyers.

Have you taken time to visit the show rooms where the new cars are on view? Have you sat behind the wheel or ridden in these cars and noticed the performance of the engine and the refinements in construction and equipment which make cars of even two, three or four years back numbers in efficient comfortable transportation?

Are you familiar with the wonderful progress made in developing the new trucks, motor buses and other heavier transportation units propelled by the gasoline engine? You will find that these units are in much stronger position than ever before to handle freight and passenger traffic over long or short distances, foreshadowing the time when the gasoline engine will furnish power in transportation channels which we at this time do not even think possible.

We have overlooked the fact that air transportation, particularly in its commercial uses, has maintained its position better during the depression than any other consumer of gasoline, and with the return to normal conditions there is every reason to expect that this outlet for motor fuel will develop rapidly.

The automotive and aeronautic industries are going ahead with research and improvements that will open larger markets for the principal product of the oil industry.

It devolves upon the oil industry to do everything possible to furnish new fuel, better fuel, which will help this expansion and lead to a demand for our products greater than we can now conceive.

### Volatility Outstanding Characteristic

Of greatest importance is engine performance. Ease in starting, acceleration, greater power and smoother operation are factors which auto engineers are depending upon to entice car owners to discard their old cars and buy new and also to enlarge the number of car owners.

The gasolines of the past do not satisfy the requirements of these new cars as regards quality. Articles appearing in this issue of The Oil and Gas Journal discuss the technical phases of this situation and show clearly that better gasoline is needed to secure maximum satisfaction to the owners of these new cars.

Some of the refiners and natural gasoline manufacturers have sensed this situation throughout its development and it is to the credit of the oil industry that they are keeping pace with the requirements of automotive progress.

It may be asked why should any industry improve its products and increase its costs during a period when profits, if any, are small. If the automobile builder had stopped with the undependable two-lung open gasoline buggy which so often had to be towed home what chance would there have been of selling 25,000,000 of them?

Fortunately neither the automotive manufacturers nor the motor fuel manufacturers have ever been satisfied with present accomplishments, however remarkable.

In the early days the engine designers did the best they could with the gasoline available and the oil industry was more concerned with maintaining supply equal to the demand than looking ahead.

Improvements in the motor led to demand for improvements in the fuel. And with these improvements and the resulting increase in efficiency and dependability in operation the market for all types of motor cars steadily widened and the demand for gasoline with it.

The time came when the technologists of both the automotive and the oil industries saw it was necessary for them to come together and co-operate in solving what was proving to be a common problem. Better engines depended upon better fuel and better fuel had to be provided to operate the improved motors.

No such development of these two major industries, automotive and oil, would have been possible without the closest co-operation. Their achievements are a conclusive demonstration of the possibilities of an industry helping itself by helping others.

### Future Depends on Co-operation

Their continued expansion must depend upon a continuance of even greater co-operation between the designers of motors and the producers of motor fuel.

The oil industry, as quickly as possible, wants to stop the decline in consumption of its principal product and the quickest way to do this is to co-operate with automobile manufacturers for the purpose of giving them motor fuel of the necessary qualifications which in turn will permit the car manufacturers to widen the demand for the internal combustion engine.

The automobile and oil industries have gone a long way in increasing the efficiency of engines and motor fuel. If improvements in this efficiency can be made, as they are being made, who can guess the future markets when, due to better products, they can enter fields they have been kept out of.

The gasoline engine, according to one high authority, has been only 5 per cent efficient, due largely to the quality of motor fuels available in the past. What can we do if we increase this efficiency?

Competent investigation has shown that given proper motor fuel the internal combustion engine can replace steam, electricity and other sources of power and greatly widen the market for petroleum.

Increasing volatility affords particular advantage to the progressive refiner and natural gasoline manufacturer. During the past year the increased production of light end fractions obtained through the gasoline recovery plants of the refiners has brought this product into temporary competition with the natural gasoline plants whose entire output is confined to volatile fractions.

The unfortunate result of this situation has been depressed prices for natural gasoline which in turn tended to hold down the entire motor fuel market to unsatisfactory price levels.

It is apparent that this situation will increase rather than decrease in importance if old standards of motor fuel quality were maintained. The trend towards greater volatility offers the way out.

The trend towards greater volatility fits in well with the requirement for antiknock quality because the more volatile motor fuel shows the highest antiknock rating.

In establishing new standards for motor fuel quality which will aid automobile manufacturers to produce engines which will give superior performance profitable outlets for the lighter fractions of the natural gasoline plants and the refiners will be made possible.

# 1933 IS A CONOCO YEAR!

*—and here's the first big Conoco news of the year...*

# A NEW CONOCO GASOLINE

## INTRODUCED BY

## THE GREATEST ADVERTISING CAMPAIGN IN CONOCO HISTORY

### ADVERTISING THAT GETS 'EM TO BUY IT, TRY IT, TALK ABOUT IT

What a combination to start 1933 gallonage *upward* for Conoco jobbers and dealers—

*A new Conoco Gasoline* that gives the public what it wants—instant starting . . . lightning pick-up . . . flashing speed and power . . . improved anti-knock . . . high test! Colored a distinctive bronze.

*And dominant advertising* that s-e-l-l-s gasoline . . . advertising that brings customers into Conoco stations . . . advertising that offers 10,000 good reasons why a motorist should try this new gasoline in his car! On the opposite page is the first advertisement to appear in newspapers and farm magazines from New York to Montana. We leave it to you—will that bring them in? The newspaper ads start January 24th!

Keep up with Conoco's gasoline campaign in the newspapers, on the radio (Wednesday, 9:30 p. m. CST, over NBC) and on the poster panels. Keep your eye on Conoco stations.

Tremendous as it is, this first gasoline campaign is only the opening gun of a 1933 advertising program that surpasses anything Conoco has ever done! In 1933 even more than in past years, Conoco is squarely behind its jobbers and dealers with the products, the advertising and the merchandising helps that boost gallonage and produce profits.

1933 is a good year to put the Conoco Red Triangle above your stations. Write or wire our Division Office nearest you. Let's make it a big year together!

# CONTINENTAL OIL COMPANY

## HEADQUARTERS: PONCA CITY, OKLA.

Albuquerque, N. M.
Butte, Montana
Chicago (Conoco Oil Co.)
Denver, Colorado
Fort Worth, Texas
Great Falls, Montana
Kansas City, Missouri
Lincoln, Nebraska
Ponca City, Oklahoma
New York City
Richmond, Virginia
Salt Lake City, Utah

CONOCO SCORES TRIUMPH IN NEW TYPE GASOLINE

New Volatile Fluid Perfected by Research Laboratory Marks Advance in Motor Fuel Standards

SPLIT-SECOND STARTING AND SPURT PICK-UP ARE STRESSED

Bronze Color in Pump Will Guide and Protect Buyers—Offers Long Mileage and Improved Anti-knock

Conoco refining chemists have produced a new, improved motor fuel. No matter how different it is, we must call it g-a-s-o-l-i-n-e; for that is the name the public knows for every motor fuel. But this gasoline deserves a special name; one that suggests how "different" it is. How else may the public know?

CONOCO

FOR A NAME $5,000.00 IN CASH

FOR BEST SLOGANS $5,000.00 IN CASH

# $10,000 IN CASH PRIZES!

# Instant Starting Lightning Pick-up Gasoline

## Nothing Will Help You So Much to Win as to T-R-Y this Gas in Your Car

Conoco refining chemists have produced a new, improved motor fuel. No matter how different it is, we must call it g-a-s-o-l-i-n-e; for that is the name the public knows for *every* motor fuel. But this gasoline deserves a *special* name; one that suggests how "different" it is. How else may the public know?

Conoco (_____?) Gasoline! If you can give us the name we want, $5,000 in cash is yours. $5,000 more will be divided among those who suggest the best slogans to describe it. What we seek is to make motorists "understand."

To describe the "difference" you must *know* the difference. To know the difference you must *feel* it in your motor. The man at the Conoco station will tell you the exciting facts; give you, free, an official contest-information-and-entry blank. Prepare yourself to produce the winning words. Fill your tank with this gas. Within 10 blocks, you'll know why *your* words may be worth $10,000.00 to us.

### 75 CASH PRIZES

GRAND PRIZE for WINNING NAME

**$5,000**

### 74 Prizes for Slogans

. . describing the Instant Starting, Lightning Pick-up qualities of CONOCO'S *New* Gasoline.

SLOGAN PRIZES:

| | |
|---|---|
| 1 PRIZE OF . . . | $ 1,000 |
| 1 PRIZE OF . . . | $ 750 |
| 1 PRIZE OF . . . | $ 500 |
| 1 PRIZE OF . . . | $ 250 |
| 5 PRIZES OF - | $100 EACH |
| 10 PRIZES OF - | $ 75 EACH |
| 10 PRIZES OF - | $ 50 EACH |
| 15 PRIZES OF - | $ 25 EACH |
| 15 PRIZES OF - | $ 15 EACH |
| 15 PRIZES OF - | $ 10 EACH |

*Get Official Entry Blank from Conoco Stations and Dealers*

**NO INCREASE IN PRICE**

## CONTEST RULES:

1 Names must be not more than 12 letters; slogans not more than 12 words. Submit either or both on single sheet; plain white paper; one side only; but preferably on official contest information-and-entry blank, free at Conoco dealers and stations. Elaborate presentations receive no extra credit.

2 Contest closes midnight, February 23, 1933. Entries must be postmarked before that date and hour.

3 Continental employees, members of their families and others connected directly or indirectly cannot compete.

4 Should more than one person submit exactly the same name or slogan, each will receive full amount of any prize such entry may win. All entries become Continental Oil Co. property, and none will be returned.

5 The Company reserves prior rights to phrases and slogans of its own creation, already in prepared advertising. Also it reserves the names "Continental" or "Conoco" gasoline, "Conogas", and "101" gasoline. Whether or not the winning contest name is adopted, prize money will be paid; but the Company reserves the right to use a name of its own creation if decided more suitable and more protectable under trade-mark laws.

6 No purchase is required of contestants. Continental Oil Co. executives will be the judges and their decisions final. Winners will be announced over radio, and prize money paid as soon as possible after contest closes.

ADDRESS ALL ENTRIES TO "CONTEST OFFICIAL"
Continental Oil Company Ponca City, Oklahoma

# CONOCO

THIS SPACE RESERVED FOR A $5,000 WORD CAN YOU CREATE THE WINNING WORD?

## NEW BRONZE HIGH-TEST GASOLINE

*Worthy Companion of Conoco Germ Processed Motor Oil*

**"Since volatile fractions in general have good anti-knock value, we can improve the octane number of motor fuel by the addition of the proper amount of natural gasoline."**

*—Quotation from THE LAMP—*
*Standard Oil Company (New Jersey)*

**WARREN PETROLEUM COMPANY**
*"Just Natural Gasoline"*
TULSA, OKLAHOMA

**"JUST NATURAL GASOLINE"**

# Car Manufacturers Change Design of Engines to Obtain Maximum Advantage of Volatility

By GEORGE GRANGER BROWN
Professor of Chemical Engineering, University of Michigan

## Volatility Most Important Motor Fuel Property

**Volatility or ability of the fuel to vaporize is the most important property of motor fuel. Engine manifolds are designed primarily to distribute a mixture of air and vaporized fuel to the cylinders. If the fuel is not adequately vaporized proper distribution will not be obtained. The required volatility of the fuel depends in a large measure upon the operating temperature of the manifold, which usually varies from about atmospheric temperature when starting to a maximum of about 180°F. for modern motors under most conditions of operation.**

**Perfect performance under all conditions of operation can be obtained only when a proper mixture of air and completely vaporized fuel is supplied to the intake manifold. It is economically possible to fulfill this condition only in special cases, but when fulfilled the improvement in performance is truly startling. This is thoroughly appreciated by the motor car manufacturer and he has offered little or no objection to the steady improvement in motor fuel volatility which has been made in the past two or three years, but has rapidly made changes in the fuel system of the new cars to obtain the full benefits from the more volatile fuels now being marketed.**

**In the accompanying article the author discusses developments in motor fuel volatility and engine performance.**

Even with down-draft carburetors only that fuel which is actually vaporized by the air passing through the carburetor reaches the cylinders in combustible form during the starting period. Because the manifold and combustion chambers of the engine are usually initially filled with air, the proportion of gasoline vapor in the mixture supplied by the carburetor must be greater than the minimum required to obtain an explosive mixture due to the diluting action of the air already in the combustion chambers and manifold.

A mixture which contains more than 20 parts of air by weight to 1 part of gasoline is ordinarily not explosive in internal combustion engines, and it is necessary to supply a mixture richer than this in gasoline in order to start the engine within a finite time interval. If the quantity of air flowing through the carburetor is greatly reduced by use of the choke so that the carburetor supplies a mixture of equal parts by weight of air and gasoline during the starting period it has been found practically impossible to start the engine if only 5 per cent of the fuel was vaporized in the carburetor and manifold. Approximately 20 revolutions are required if 6.5 per cent of the fuel is vaporized, 13 revolutions if 7.5 per cent of the fuel is vaporized, only 7 revolutions if 10 per cent of the fuel is vaporized, and but 3 revolutions if 25 per cent of the fuel is vaporized under these conditions.

Satisfactory starting demands that about 8 to 10 per cent of the fuel be vaporized, but easy starting requires about 25 per cent volatility. Due to the action of the air in decreasing the partial pressure of the gasoline vapor, the fuel will be vaporized in the intake manifold at much lower temperatures than when distilled from a flask in the ordinary laboratory procedure.

As a fairly satisfactory indication of the lowest temperature at which a fuel will give satisfactory starting, 125 may be subtracted from the temperature in degrees F. of the 10 per cent point on the distillation curve. Similarly about 130 should be subtracted from the temperature at which easy starting might be expected. These statements are based upon an engine in good condition with a choke able to reduce the air-fuel ratio to about 1 to 1 and with oil and battery conditions such that the engine may be cranked at a speed of not less than about 30 revolutions per minute.

With fuels of little starting volatility as frequently supplied a few years ago and still encountered in some localities, little more than 3 or 5 per cent of the fuel could be vaporized in the carburetor in cold weather. In order to start the engine at all under such conditions it was necessary to supply the carburetors with tightly closing chokes, which with more volatile fuels are a frequent source of difficulty as the mixture becomes too rich due to excessive choking.

### Acceleration or Throttle Response

In order to prevent excessive choking in starting many modern carburetors incorporate a loaded valve in the choke, which opens immediately when the engine begins to gain speed. This device tends to prevent flooding of the carburetor and the excessive choking so necessary only a few years ago when starting on a cold morning.

If a fuel is sufficiently volatile to start an engine, operation of the engine can be continued regardless of other volatility characteristics if the operator is willing to continue the use of the choke. But unless the fuel possesses a fair degree of volatility it is impractical to operate the vehicle by operating the choke as a new setting must be made on the choke for each speed and load placed on the engine. Within a few minutes after starting, the manifold and the engine become sufficiently warm so that it should be possible to operate the car in a satisfactory manner without the necessity of choking.

Although the manifold is designed to distribute air and fuel vapor to the cylinders, under actual driving conditions the velocity of the air stream is sufficient to carry along the walls of the manifold a film of liquid fuel. This liquid fuel becomes vaporized in the combustion chamber and is burned as efficiently as if it had been vaporized in the manifold. When the engine is driven at constant speed, a steady state is reached in the intake manifold so that all of the fuel supplied by the carburetor is distributed more or less uniformly to the various cylinders almost regardless of the volatility of the fuel. During periods of acceleration, particularly with a cool motor or manifold, the amount of fuel delivered to the cylinders immediately after the throttle is suddenly opened is less than that supplied to the manifold by the carburetor, for the reason that the vaporized fuel is distributed as rapidly as the air but that part of the fuel not vaporized deposits on the walls of the manifold and is dragged along by the air stream at a much slower rate. Approximately four seconds is the time interval required for the increased flow of liquid fuel at the carburetor to reach the cylinders in the case of most engines under driving conditions.

In order to compensate for this incomplete vaporization of fuel, most modern cars are equipped with carburetors which inject an additional charge of fuel into the manifold whenever the throttle is suddenly opened. These accelerating devices thereby serve to enrich the mixture at the carburetor so that the concentration of fuel vapor in the air stream will be increased sufficiently to compensate for the delayed distribution of liquid fuel along the walls of the manifold after the throttle is suddenly opened for acceleration. In general these accelerating devices inject a sufficient quantity of fuel to make proper compensation for a fuel which is about 75 per cent vaporized at the carburetor.

So that satisfactory performance without use of the choke may be obtained as soon after starting as is possible, it is desirable that the motor rapidly attain its proper operating temperature after starting. In order to shorten this warming-up period modern cars are equipped with thermostatically controlled radiator shutters, or the cooling water by-passes the radiator through a thermostatically controlled valve until the desired temperature is reached so that it is not necessary to warm the entire water in the radiator to obtain proper operating temperatures in the engine jacket.

### Warming the Engine

As a further aid in warming the engine rapidly the exhaust gases are deflected onto the outer surfaces of the intake manifold until a predetermined temperature is reached when a thermostatically controlled valve cuts off the exhaust heat from the intake manifold and allows the hot gases to escape directly through the muffler. This thermostatic control of the heat on the intake manifold was not considered necessary a few years ago when the 90 per cent point on the A.S.T.M. distillation averaged above 375° F., as with such fuel the mixture seldom if ever became dry even with the full exhaust heat on the intake manifold at full throttle. With the more volatile fuels now on the market with 90 per cent points in the neighborhood of 360° F. it is necessary to limit the amount of heat supplied to the intake manifold in order to avoid loss in power when the motor has become thoroughly warmed.

With the amount of heat supplied to the intake manifold limited on modern cars it is not so important to maintain a minimum of 375° F. for the 90 per cent point as was recommended three years ago,[1] and full advantage may be taken of the more uniform distribution obtained with fuels that are completely vaporized.

As a further precaution against overheating the intake manifold some cars are equipped with a valve which cuts off all exhaust heat from the intake manifold when the throttle is wide open. With the more volatile fuels now being marketed sufficient heat reaches the intake manifold from the engine block when operating at full throttle and it is unnecessary and undesirable that any additional heat be supplied as the lower mixture temperature decreases the knocking tendency and increases the maximum power output.

In some carburetors the accelerating pump, which injects an excess quantity of fuel into the manifold when the throttle is opened to insure adequate acceleration, is also equipped with a thermostat which reduces or eliminates the accelerating charge when the carburetor and motor have become heated to a temperature adequate to completely vaporize the fuel. Such devices remove the only other necessity for maintaining sufficiently high 90 per cent points to prevent complete vaporization of the fuel, which would give an overrich mixture and poor acceleration if the accelerating charge was not reduced at high temperatures.

### Lower 50 Per Cent Point

Within the last three years the 50 per cent point of the average motor fuel has been reduced from about 265° F. to about 245° F. Motorists have learned that satisfactory performance can be obtained from motor fuel of high volatility and are no longer satisfied with what was considered satisfactory in 1929.

Satisfactory performance according to the modern motorist demands a fuel which is not less than 75 per cent volatile at the carburetor. With the modern devices to shorten the warming-up period, the driver can dispense with use of the choke and obtain satisfactory performance within a very few minutes after starting his car.

The mixture temperature required to vaporize about 75 per cent of the fuel is approximately one-half that of the 75 per cent point in the A.S.T.M. distillation analysis. Thus, if 75 per cent of the fuel is vaporized in the laboratory distillation at 300° F. a mixture temperature of about 150° F. would be required in the manifold to give satisfactory performance on modern cars equipped with accelerating devices. Not more than three to five minutes are usually required on modern cars for the intake manifold to reach an effective temperature of about 150° F. The rate with which the mixture temperature increases immediately after starting is very high. If the atmospheric temperature is 70° F., the mixture temperature is about 120° F. within one minute when requiring three minutes to reach 150° to 160° F. For this reason increased volatility throughout the first 70 per cent of the distillation curve is very effective in shortening the warming-up period.

### Distribution

With four or possibly six cylinders in the representative motor car of a few years ago complete volatility was not necessary for adequate distribution in the relatively simple and short intake manifolds. But with from 8 to 12 cylinders or more incorporated in modern motors the more complicated intake manifolds have increased the difficulty and importance of uniform distribution of fuel to the different cylinders. Perfect distribution can be obtained only when the fuel is completely vaporized, but if accelerating charges are introduced whenever the throttle is opened, loss in power and mileage will be obtained if the fuel is completely vaporized. For these reasons it is desirable for perfect performance, if there be such, that the accelerating charges be greatly reduced or eliminated

(Continued on Page 78)

[1] The Volatility of Motor Fuels—Engineering Research Bulletin No. 14, University of Michigan, 1930.

# Suggest Volatility Index for Motor Fuels as Aid in the Utilization of Light Hydrocarbons

By G. G. OBERFELL and R. C. ALDEN
Research Department, Phillips Petroleum Co.

With summer gasolines approaching 140° F. at their 10 per cent points, which means easy starting at engine temperatures as low as 15° F., it is fairly obvious that this feature of motor fuel performance has ceased to be competitive. Likewise, no immediately perceptible improvement in performance can be attained within the wide limits permissible for the 90 per cent point. It is only in respect to the mid-portion of the distillation curve that notable improvement can be made toward better performance in the engine.

There is a tendency to belittle the usefulness of volatility in motor fuels. Because most motor fuels contain sufficient light ends to start the car it is assumed that no further improvement is desirable. To illustrate the fallacy of this viewpoint, Table 1 is presented, in which the warming-up characteristics are related to the 35 per cent point in the A.S.T.M. distillation.

TABLE 1—MINUTES CHOKE MUST BE USED AFTER START[1]

| A.S.T.M. 35% temperature (° F.) | Engine temp. (° F.) −20 | 0 | 30 | 60 | 90 |
|---|---|---|---|---|---|
| 250 | (*) | 18.0 | 8.0 | 3.9 | 1.0 |
| 225 | (*) | 9.7 | 5.0 | 2.1 | ... |
| 200 | 11.1 | 6.3 | 3.0 | 0.6 | ... |
| 175 | 7.5 | 4.1 | 1.5 | ... | ... |
| 150 | 5.2 | 2.3 | 0.2 | ... | ... |

[1]Choke necessary under steady driving conditions.

The proponents of high compression engines consider fractional seconds in acceleration as highly significant, and indeed they are. They mark the difference between sluggish and snappy performance. When it is realized that minutes can be removed from the disagreeable and inconvenient task of warming-up a cold engine by lowering the 35 per cent point, some of the advantages of high effective volatility in motor fuels can be better understood.

It is thus apparent that effective volatility is a highly important characteristic of motor fuels. No simple measurement of this quality is in use or has been suggested, in spite of the fact that it is perhaps the one remaining feature of gasoline performance susceptible of competitive variation. The need for some such simple measurement is further stressed by the necessity for efficiently and economically utilizing the industry's present over-supply of light hydrocarbons.

### Conclusions of Investigators

In the following paragraphs, the salient conclusions of several investigators of effective volatility are briefly summarized. These conclusions point rather definitely to the 50 per cent point as an index of effective volatility. Some practical relationships are presented dealing with the use of the 50 per cent point as a control specification.

The U. S. Bureau of Mines in its gasoline surveys has always made use of an "average boiling point" as an indication of relative overall volatility. The following definition is quoted from their first comprehensive survey.[2] "The average boiling point is calculated by adding the temperature of the initial boiling point, dry point, and each of the 10 per cent marks, and dividing the sum by 11." From the viewpoint of defining the effective volatility of a motor fuel this volatility index is inadequate because the earlier portions of the distillation curve should receive more than average emphasis.

Much the same objections can be made to the volatility index recently incorporated as a part of the specifications for Fighting Aviation Gasoline, Antiknock Grade. The specification[3] stipulates that the sum of the 10, 50 and 90 per cent evaporated temperatures shall exceed 564° F. With the attendant maximum vapor pressure and minimum volatility requirements this specification comes quite close to a specific volatility index. However, apart from the subsidiary specifications, the above sum is inadequate as a volatility index due to the implied equality of effects of the 10 and 90 per cent points.

Brooks and Bruce[4] suggest a variable relationship as to the effectiveness of increased volatility in acceleration. The effectiveness of two fuels is inversely proportional to the absolute temperatures at some per cent evaporated in the A.S.T.M. distillation, the selection of the per cent evaporated depending on the mixture temperature. Table 2 presents the author's calculations of the points of comparison as derived from the suggested relationship.

TABLE 2—A.S.T.M. POINT OF COMPARISON FOR RELATIVE EFFECTIVENESS IN ACCELERATION AS RELATED TO MIXTURE TEMPERATURE

| Per cent evaporated | Mixture temp. (° F.) |
|---|---|
| 5 | 32 |
| 10 | 55 |
| 35 | 122 |
| 50 | 150 |
| 65 | 181 |
| 90 | 212 |

Thus, if a mixture temperature of 150° F. is assumed, the temperatures of the 50 per cent points determine the relative effectiveness of the fuels in acceleration.

Brown[4a] presents data pertaining to mixture temperatures from which the following generalizations can be adduced: (a) Cars with automatic shutters attain operating mixture temperatures of 120° to 185° F. (average about 155° F.), regardless of atmospheric conditions, attaining these levels in from 10 to 20 minutes after a cold start, and (b) cars without automatic shutters attain operating mixture temperatures of 75° to 110° F. (average about 93° F.) above atmospheric temperature, attaining these levels in from 15 to 20 minutes after a cold start. From Brown's data in regard to mixture temperatures it is to be concluded that operating mixture temperatures range from about 120° to 180° F. except in extreme atmospheric conditions. Referring to the relationship derived from the work of Brooks and Bruce it is to be noted that the critical portion of the distillation curve in respect to acceleration under steady driving conditions is the portion between the 35 and 65 per cent evaporated points.

Brown[4b] states the following generalizations, suitably qualified, in respect to the specification points necessary to insure specified features of performance:

(a) Easy starting—10 per cent evaporated temperature must be less than 1.25 (100 plus engine temperature, ° F.).

(b) Satisfactory warming-up — A.S.T.M. 35 per cent evaporated temperature must be less than 100 plus 1.5 mixture temperature, ° F.

(c) Good acceleration, driving conditions—A.S.T.M. 60 per cent evaporated temperature must be less than two times the mixture temperature, ° F.

(d) No loss of power—A.S.T.M. 90 per cent evaporated temperature must be above 320° and 390° F. in the winter and summer respectively.

(e) No crankcase dilution—A.S.T.M. 90 per cent evaporated temperature must be below 400° and 450° F. in the winter and summer respectively.

It is interesting to revert at this point, with the evidence thus far presented, to the contention that increased effective volatility is of no significance. For this purpose three gasolines having the following essential distillation characteristics will be compared:

Gasoline A, 10 per cent at 126°, 50 per cent at 267°, 90 per cent at 373° F., 60.5° A.P.I., 10.5 pounds R.V.P.

Gasoline B, 10 per cent at 127°, 50 per cent at 214,° 90 per cent at 302° F., 64.8° A.P.I., 11.0 pounds R.V.P.

Gasoline C, 10 per cent at 112°, 50 per cent at 198°, 90 per cent at 351° F., 68.0° A.P.I., 11.4 pounds R.V.P.

Gasoline A is a conventional winter motor fuel. Gasoline B obtains increased effective volatility by reduction in end-point. Gasoline C obtains increased effective volatility by blending with natural gasoline.

Table 3 compares the performance features of these three gasolines.

At all operating conditions, Gasolines B and C are more effective in acceleration than Gasoline A, and Gasoline C is superior to Gasoline B at all except the extremes in mixture temperatures where it is equal to Gasoline B. The comparison demonstrates that increased effective volatility is advantageous and that effective volatility is increased more advantageously by adding light hydrocarbons than by removing heavy hydrocarbons.

A careful study of the research work review in the preceding paragraphs leads to the obvious conclusion that the effective volatility of motor fuels depends on the temperature at the 50 per cent evaporated point in the A.S.T.M. distillation. During the warming-up period the 35 per cent (and even earlier) points are critical. Under driving conditions the 60 per cent point is critical. Both the 35 and 60 per cent points are lowered with a reduction in the 50 per cent point. A further advantage of the 50 per cent point as an index of effective volatility is that it is already a specification point.

The close relationship between the 50 per cent point and the 35 and 60 per cent points is indicated in Figure 1, where

(Continued on Page 78)

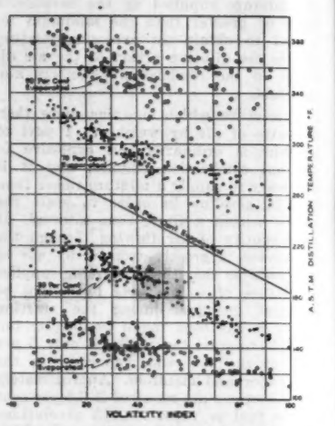
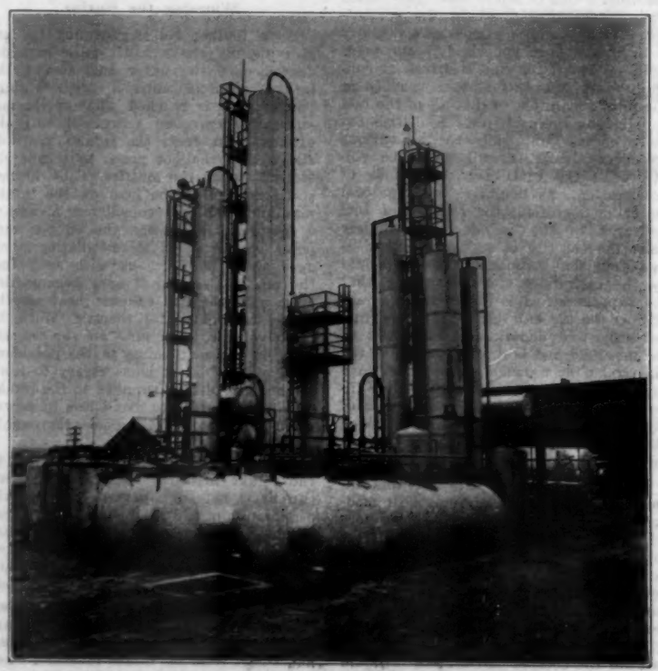
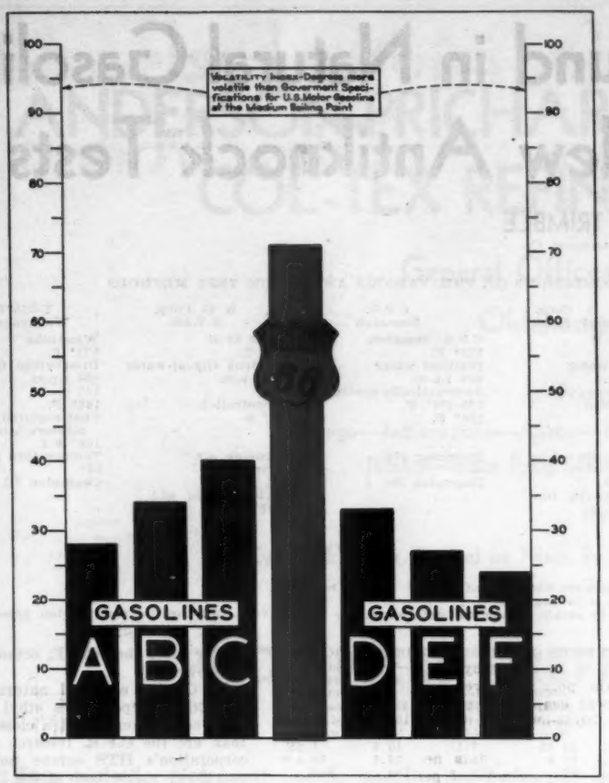



*Figure 1.—Volatility index of motor fuels related to other distillation points*

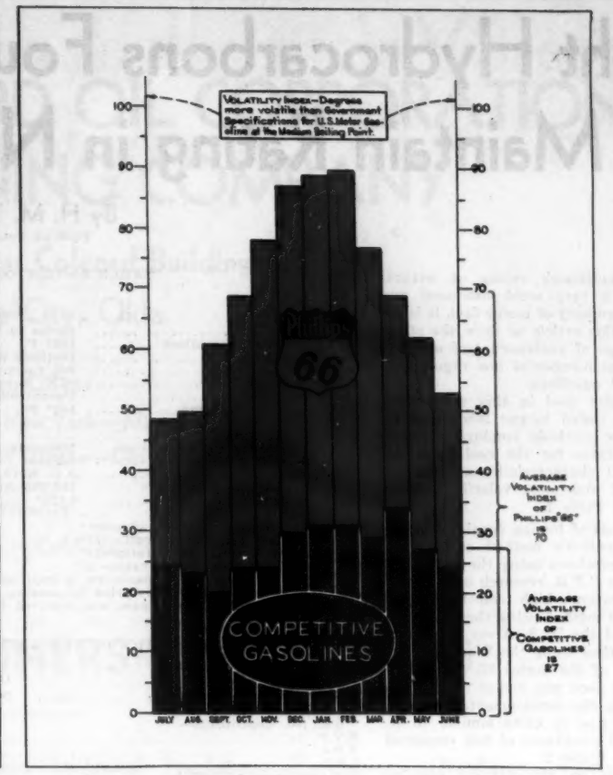
## Equipment Manufacturers Have Important Part in Development



*The perfection of stabilizing and fractionating equipment at refineries and natural gasoline plants has been an essential contribution in the trend toward greater volatility in motor fuels. The above picture shows a gasoline recovery and stabilizer unit at a large Mid-Continent refinery*


Volatility Index—Degrees more volatile than Government Specifications for U.S.Motor Gasoline at the Medium Boiling Point
GASOLINES
A B C
GASOLINES
D E F

The Volatility Index of Phillips 66 compared with the six other leading gasolines. Samples collected from Nov. 1, 1931 to Oct. 31, 1932.


Volatility Index—Degrees more volatile than Government Specifications for U.S.Motor Gasoline at the Medium Boiling Point.
COMPETITIVE GASOLINES
Average Volatility Index of Phillips "66" in '70
Average Volatility Index of Competitive Gasolines in '67
JULY AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUNE

Monthly Control of Volatility Index in Phillips 66 compared with 25 competitive gasolines over the past three years.

# These graphs prove that the VOLATILITY INDEX of Phillips 66 gasoline is 78% higher

## *than its nearest competitor among the six other* LEADING GASOLINES

AN exhaustive survey of the Volatility Index of more than 25 competitive gasolines shows Phillips 66 far in the lead. These figures were determined by an analysis of the various gasolines at regular intervals over a period of three years.

The charts above show, at a glance, why Phillips 66 gasoline guarantees the motorist almost instant warm-up and flashy acceleration in any atmospheric temperature. The left-hand chart shows how much higher the Volatility Index of Phillips 66 gasoline is compared with the six other leading gasolines. The right-hand chart shows how the Volatility Index of Phillips 66 is controlled to meet the various monthly temperature changes.

All reputable gasolines are free from impurities, their anti-knock characteristics are good, their vapor pressures are controlled to insure starting and to avoid vapor lock; their end points are maintained at a level to provide power and mileage. But most of these qualities are negative. That is, all reputable gasolines possess these qualities in excess of the requirements of the present day engine. But volatility is a positive quality—as any trial will prove.

### VOLATILITY INDEX AND U. S. GOVERNMENT GASOLINE SPECIFICATIONS

| GASOLINE | MEDIUM BOILING POINT (Maximum) | (Calculated) VOLATILITY INDEX (Minimum) |
|---|---|---|
| U. S. Motor | 284°F. | 0 |
| *Motor Fuel V | 257°F. | 27 |
| Domestic Aviation | 221°F. | 63 |
| Fighting Aviation | 212°F. | 72 |

*For ambulances, fire engines, and other emergency equipment.

A comparison of the U. S. Government Specifications with the volatility index of Phillips 66 shown in the charts above proves the superiority of Phillips 66 gasoline over federal requirements and competitors.

Phillips 66 gasoline is guaranteed to offer controlled volatility because the Phillips Petroleum Company is the world's largest producer of "natural gasoline"—the gasoline with the highest VOLATILITY INDEX of ALL gasolines.

### DEFINITIONS

VOLATILITY INDEX—degrees more volatile than government specifications for U. S. Motor gasoline at the medium boiling point.

AVERAGE ATMOSPHERIC TEMPERATURE—the mean maximum temperature for each locality, as determined from long time records of the U. S. Weather Bureau.

CONTROLLED VOLATILITY—the manufacture and distribution of gasoline through a large territory so that the week by week sum of the Volatility Index and the Average Atmospheric Temperature is constant the year round.

PHILLIPS PETROLEUM COMPANY
Bartlesville, Oklahoma.

# Light Hydrocarbons Found in Natural Gasolines Maintain Rating in New Antiknock Tests

By H. M. TRIMBLE
Phillips Petroleum Co.

As the antiknock rating of natural gasoline is a very much discussed and important property of motor fuel, it is the purpose of this article to show the effect of the change of antiknock test methods on the octane number of low vapor pressure natural gasolines.

The samples used in this work were all of those tested in our laboratory by two or more methods employing different temperatures for the cooling liquid. The physical characteristics and nature of the least and most volatile samples are given in Table 1.

The methods of testing consisted of the Ethyl corporation's method of test for Ethyl base gasolines using the Series 30-B engine, the C.F.R. research method, the Ethyl corporation's high temperature and speed (HTS) method using the Series 30-B engine and the U. S. Army Air Corps Y-3557E method using the Waukesha engine instead of the Series 30. The Waukesha engine used was one of the engines first built in the development of the C. F.R. engine and is quite similar to it. The essential conditions of test employed are given in Table 2.

The results on the natural gasoline samples have been plotted on Plates 1 and 2. Plate 3 gives results on unethylized motor fuels and is included for comparative purposes. In Plate 1 octane numbers at 212° F. as obtained by the Ethyl corporation ethyl base and C.F.R. research methods, are compared with octane numbers at 362° F. by the Ethyl corporation's HTS method. In Plate 2 a comparison is shown of octane numbers at 212° F. by the C.F.R. research method with those at 375° F. by Y-3557E on the Waukesha engine. Octane numbers of filling station samples of motor fuels at 212° F. by the C.F.R. research test and those at 362° F. by the Ethyl corporation HTS test are compared in Plate 3.

From the data given it is found that change of test method does not greatly affect the octane number of either unethylized or ethylized natural gasoline. It also is noted that unethylized motor fuels on the average lose about 5 octane numbers under the more severe antiknock test method.

The following general conclusions can be drawn from the data:

1. The C.F.R. research method gives slightly lower octane numbers on both unethylized and ethylized natural gasoline than the Ethyl corporation's ethyl base method.

2. On unethylized natural gasoline the C.F.R. research and Ethyl corporation's HTS octane numbers are closer together than are the Ethyl corporation's ethyl base and HTS octane numbers. In all the cases the 362° F. octane numbers are lower.

3. On the ethylized natural gasoline the Ethyl corporation's ethyl base and HTS octane numbers are closer together than are the C.F.R. research and Ethyl corporation's HTS octane numbers. In nearly every case both of the 212° F. octane numbers are lower.

4. In comparing the C.F.R. research and Y-3557E (using Waukesha) methods it is noted the 375° F. octane numbers are slightly lower on the ethylized natural gasoline and slightly higher on the unethylized natural gasoline than are the 212° F. octane numbers.

5. For the methods shown here four octane numbers appear to be the limit of the difference between the ratings obtained on a sample of natural gasoline either with or without ethyl fluid. While these differences may be positive or negative this should not be construed to mean that the octane numbers will spread over a range of 8. Instead a range of 4 oc-

(Continued on Page 23)

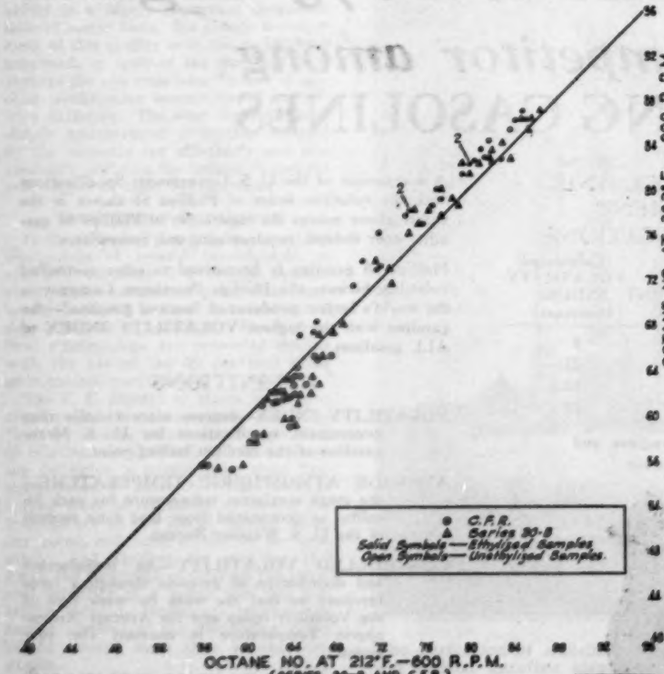
TABLE 2—TEST CONDITIONS OF THE VARIOUS ANTIKNOCK TEST METHODS

| Method— | E. G. Corp. Ethyl Base | C.F.R. Research | E. G. Corp. H.T.&S. | Y-3557E with Waukesha Engine |
|---|---|---|---|---|
| Engine | Series 30-B | C.F.R. research | Series 30-B | Waukesha |
| Temp. of cooling medium | 212° F. | 212° F. | 362° F. | 375° F. |
| Cooling medium | Distilled water | Distilled water | Ethylene Glycol-water | Di-ethylene Glycol-water |
| Speed | 600 r.p.m. | 600 r.p.m. | 900 r.p.m. | 900 r.p.m. |
| Spark advance | 15° | Automatically controlled* | 15° | 14° |
| Oil temperature | Uncontrolled | 130-135° F. | Uncontrolled | 160° F. |
| Air to carburetor, temp. | 100° F. | 100° F. | 100° F. | That required to maintain mixture temp. 100° F.‡ |
| Mixture temperature | ..... | ..... | ..... | Temperature plug† |
| Means of measuring detonation | Bouncing pin | Bouncing pin | Bouncing pin | |
| Throttle setting | Varied | 90° | Varied | 80° |
| Spark plug | A.C. K-10 | Champion No. 8 | A.C. K-10 | Champion 7C |
| Fuel throttle comp. pressure | 130-200 lbs./sq. in. | ..... | 130-135 lbs./sq. in.§ | ..... |
| Shim thickness | 0.175" | ..... | 0.445" | ..... |

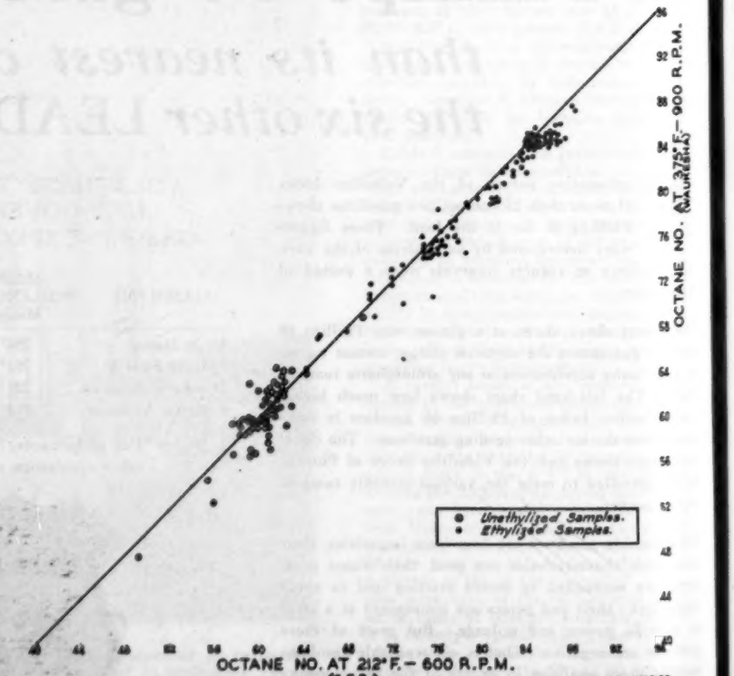
*Basic setting of spark advance:
5 to 1 compression ratio—22½°.
6 to 1 compression ratio—18°.
7 to 1 compression ratio—15°.
†Plug temperature at maximum is kept between 640° F. and 680° F. on the test fuel.
‡The air to carburetor is dried by passing it through $CaCl_2$.
§A shim of 0.050" thickness was removed to obtain octane numbers above 80. This gave a full throttle compression pressure of 140 to 145 lbs./sq. in.

TABLE 1—CHARACTERISTICS OF THE EXTREMES OF THESE NATURAL GASOLINES

| | For Plate 1 | | For Plate 2 | |
|---|---|---|---|---|
| S.S. No. description— | 9053 15-lb. N.G. | 9767 7-lb. N.G. | 8517 10-lb. N.G. | 8243 Refractionated heavy ends of natural gasoline |
| R.V.P. | 14 45 | 7.1 | 10 0 | 1.25 |
| A.P.I. | 81.9 | 75.3 | 76.7 | 59 6 |
| I.B.P. | 86 | 117 | 103 | 215 |
| Per cent evap. at 100° F. | 12 9 | .... | .... | .... |
| Per cent evap. at 140° F. | 62.1 | 24.7 | 45 2 | .... |
| Per cent evap. at 212° F. | 91.3 | 97.2 | 95 2 | .... |
| Endpoint | 360 | 246 | 264 | 300 |
| Recovery | 96 7 | 98.0 | 98.8 | 99 0 |
| Loss | 2.9 | 1 9 | 1.1 | 0.8 |
| Octane No. at 212° F. (Series 30B) | 66.0 | 61.6 | .... | .... |
| Octane No. at 212° F. (C.F.R.) | 64 7 | 60.8 | 69.6 | 49.2 |
| Octane No. at 362° F. (Series 30B) | 63.6 | 58.4 | .... | .... |
| Octane No. at 375° F. (Waukesha) | .... | .... | 69.0 | 47.6 |


OCTANE NO. AT 362° F.—900 R.P.M. (SERIES 30-B.)
OCTANE NO. AT 212° F.—600 R.P.M. (SERIES 30-B. AND C.F.R.)
C.F.R. Series 30-B
Solid Symbols—Ethylized Samples.
Open Symbols—Unethylized Samples.
H.M.T. 12-29-32.

1—Comparison of octane numbers of natural gasoline at 212°F. and 362°F.




2—Comparison of octane numbers of natural gasoline at 212°F. and 375°F.

# ANDERSON-PRICHARD OIL CORPORATION
# COL-TEX REFINING COMPANY

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Branch Offices

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Refineries

Cyril, Oklahoma, located on Frisco Ry.—Colorado, Texas, located on T. & P. Ry.

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WHERE THREE CAME IN BEFORE

# By-Products Obtained in Manufacturing Volatile Gasolines Basis for Important New Market

By C. K. FRANCIS, Ph.D.
Technical Editor

The research and development work which has been necessary at natural gasoline plants and refineries in order to secure more volatile motor fuels has been the basis for opening new markets for the oil industry. To secure the desired volatility it has been necessary to eliminate those fractions which have no value as motor fuel and are objectionable from the standpoint of engine performance. Modern fractionating equipment recovers these hydrocarbons and they are now being made available for other uses, bringing new outlets which already are important factors in the revenue of many companies.

The stabilizing operation consists in pumping the raw gasoline to a bubble plate tower, where the liquid flows downward to a heating coil at the bottom. The hot vapors then pass upward through the descending liquid as it collects on each plate. There is thus a series of distillations and condensations, with the denuded vapors finally escaping at the top of the tower.

All that is necessary to make any desired separation with this sort of fractionating equipment is to make proper adjustment of the liquid fed into the tower with control of the temperature and pressure. In every case the weight of the liquid increases from the top to the bottom, the lighter products being withdrawn from the top and the heaviest taken off at the bottom. Some operators make the separation in one tower, while others use two or more columns. The length of the tower, number of plates and the number of towers influence the sharpness with which any product may be separated under the additional conditions of temperature and pressure. With adequate control it is possible to so arrange the equipment and operating conditions to segregate in a practically pure condition all of the hydrocarbons that may be found in a petroleum gas.

### Liquefied Gas Industry

The stabilization of natural gasoline has made it possible to recover large quantities of propane and butane, now in demand for use as domestic fuels in sections where there is no gas supply, and for enriching artificial gas of low heating value. These gases are separated from the natural gasoline, reduced to the liquid condition under pressure and low temperatures, and stored in steel cylinders from which they are released in the gaseous form. Propane in this condition, as bottled gas, is adapted for use under most climatic conditions of the United States, because it may be released down to 44° below zero F. The high heating value of butane, 3,251 B.t.u. per cubic foot, makes it especially desirable for enriching and for making a suitable gas, when mixed with air, for small town gas systems.

The growth of the liquefied petroleum gas industry is indicated in the table showing the marketed production of these gases.[1]

Propane constitutes the greater part of the liquefied gas sold because it is present in most natural gas in appreciable quantities, its physical properties are such that it is readily withdrawn by the stabilizing units of the natural gas industry and it is well adapted for use in domestic gas systems. This does not mean that the propane is withdrawn from the gas to the exclusion of all other associated hydrocarbons; the three hydrocarbons, propane, butane and isobutane, are the essential substances present, with propane predominating.

[1]As presented by G. G. Oberfell before American Petroleum Institute, Houston, Tex., Nov. 16, 1932.

MARKETED PRODUCTION OF LIQUEFIED PETROLEUM GASES

| Year | Total sales: Gallons for year* | Total sales: Tank cars per day | Estimated distribution†—gallons for year: Bottled gas | Industrial and miscellaneous | Gas manufacturing |
|---|---|---|---|---|---|
| 1922 | 226,641 | 0.06 | | | |
| 1923 | 276,863 | 0.08 | | | |
| 1924 | 376,488 | 0.10 | (‡) | (‡) | (‡) |
| 1925 | 403,674 | 0.11 | | | |
| 1926 | 455,685 | 0.13 | | | |
| 1927 | 1,091,905 | 0.30 | | | |
| 1928 | 4,522,899 | 1.24 | 2,600,000 | 422,000 | 1,500,000 |
| 1929 | 9,930,964 | 2.72 | 5,900,000 | 1,500,000 | 2,500,000 |
| 1930 | 18,017,347 | 4.94 | 11,800,000 | 2,200,000 | 4,000,000 |
| 1931 | 28,402,619 | 7.81 | *15,294,648 | *7,023,516 | *6,184,655 |
| 1932† | 32,000,000 | 8.77 | 17,066,000 | 8,000,000 | 7,000,000 |

*From U. S. Department of Commerce report of February 11, 1932.
†Estimated by Mr. Oberfell.
‡Sale of liquefied petroleum gas confined primarily to bottled gas business prior to 1928.

The cracking units of the refineries produce large volumes of gas which may be stabilized by the methods employed for the removal of the very volatile liquids removed when making natural gasoline and the recovery of products which may be marketed in the form of liquefied gas. Analyses of a sample of propane produced from natural gas and a similar refinery product are given in the table.

COMPOSITION OF COMMERCIAL PROPANE

| Source— | Natural gas | Refinery gas |
|---|---|---|
| Specific gravity: | | |
| Gas | 1.502 | 1.493 |
| Liquid | 0.509 | 0.514 |
| B.t.u./cu. ft. | 2,485 | 2,445 |
| Vapor pressure at 100° F., lbs./sq. in. | 188 | 190 |
| | —Per cent by vol.— | |
| Ethane | 4.6 | 2.4 |
| Propane | 93.1 | 55.4 |
| Butane, etc. | 1.7 | 3.7 |
| Propylene | .... | 34.5 |

The use of liquefied gas, especially propane, for domestic fuel in sections not served by gas mains is increasing very rapidly. The propane used in this way now requires a supply approximating 17,000,000 gallons a year to serve about 167,000 customers. The standard supply unit may include either one or two cylinders, these being installed in a cabinet outside of the customer's building. The gas is released from the cylinder through a regulator to pipes leading to the stoves or other appliances. When two cylinders are used, one is held in reserve until the other is empty, then the full cylinder is turned on and the empty one sent to the dealer to be refilled. The one cylinder unit requires that the supply be maintained from a service truck, the customer paying for the propane according to the weight delivered into the cylinder. Cylinders ranging from a liquefied gas content of 25 to 200 pounds may be obtained, but the popular size is 100 pounds.

### Many Uses for Gases

Propane, butane and pentane are used for many purposes, in addition to domestic gas supply systems. The U. S. Bureau of Mines mentions their use in conjunction with the gas industry; to replace gas oil in carburetting gas of low heating value to the standard thermal value; as a base material for manufactured gas; for recarburetion of gases to offset the loss of thermal value in high pressure transmission systems; to meet peak load conditions and as a protection against interruptions in service; and as a source of gas supply to communities which are not large enough to warrant the installation of manufactured gas plants or the extension of distribution systems from nearby centers.

Several industrial plants have installed butane storage equipment as a standby to guard against the interruption of their normal fuel supply. Propane is being used as a fuel to heat the adsorbers in iceless automatic refrigerators and its use in a somewhat similar way for cooling railroad passenger cars has been suggested. In the metal and allied industries liquefied gases are being used for heat treating, hardening, annealing, gas carburizing, enameling, core baking, metal cutting, forging and similar operations. In commercial laundries these gases are used for operating collar and cuff pressing machines, mangles, hand irons and washing machines, while in the food industries they have been applied to the canning of milk, fruits and vegetables and the roasting of coffee and peanuts.

In school, industrial and hospital laboratories, propane is being used for operating burners, hot plates and sterilizers and, in industrial plants, for heating soldering irons, bench furnaces, for heat treating small tools and for the melting of soft metals, such as copper, brass, bronze and lead. Other industrial applications include glass annealing and the burning of ceramic ware; for singeing, drying and heating calendar rolls in textile mills; for heating type-melting pots in printing plants; glass blowing and working; carbonizing radio tube plates; lead burning and the production of distilled water and battery service stations; as a refrigerant in gas-fired refrigerators; for pilot lights on oil and pulverized coal burners; for paint burning; for incubator heating and egg candling; pre-heating for welding; and the operation of heavy-duty cooking equipment in hotels, clubs, restaurants, road stands, dining cars and boats. The industrial application of these liquefied gases is being extended continually through experimental studies.

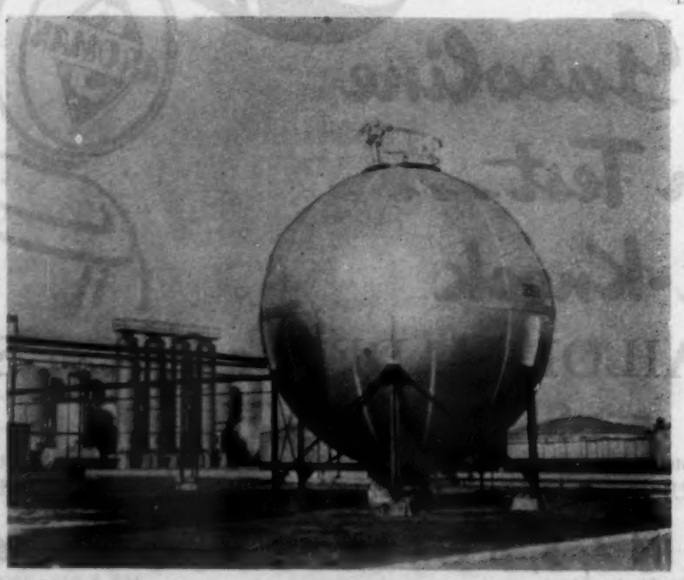
### Gas Fuel for Towns

Liquefied butane is well adapted for manufacturing gas for distribution in small towns. Because of its high thermal value it may be diluted with approximately 80 per cent air to make a gas of about 600 B.t.u. per cubic foot. There is a growing tendency to include propane and refinery gases for this purpose. The liquefied gas is transported in especially constructed tank cars, from which the liquid is released to a storage tank. The method employed for making the gas is simple. The vapor is drawn off from the top of the storage tank, flowing through a series of regulators which reduce the pressure, to a compressor intake chamber to be mixed with the incoming air. The advantages of a butane-air gas plant include low investment and operating expense, with but little supervision being required. When once adjusted, the plant is practically automatic, so that the labor necessary is only the part time of one man. The gas requires no purification but, for safety reasons, a warning agent may be introduced to give the product a distinctive odor. The gas may go directly from the machine to the distributing system, but it is considered better, to avoid possible interruption of the service, to make use of a pressure storage tank for the main supply and to supplement this with gas from the machine.

The first commercial product to be

(Continued on Page 78)

## Pressure Storage Installation for Light Gasoline Fractions



*Many refiners and natural gasoline manufacturers are providing special storage for the most volatile gasoline fractions. Picture shows pressure storage tank at large middle west refinery*

# WHICH? would show you the greatest profit...

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The luxurious motor fuel of extra power for acceleration in traffic . . . mileage on the highway . . . and power for the hills.

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All standard first class quality sold at popular prices, triple tested and with an iron-clad guarantee that protects the purchaser.

**KEROSENE**
41-43 and 42-44 Gravity refined to a higher grade than the most exacting state specifications.

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Barnsdall Non-Poisonous Plant Spray—Concentrated Cattle Spray—Fly Killer, a Non-Poisonous product and Mothene, a Non-Poisonous Moth killer.

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Barnsdall now offers a complete line of automobile storage batteries built to the BE SQUARE standard of quality.

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# Trend in Motor Fuel Quality Continues Toward Increased Volatility and Octane Value

By W. T. ZIEGENHAIN

Improved volatility and higher anti-knock value characterize the new 1933 winter motor fuels being offered by the major companies marketing their products in the middle western states. This statement is based upon a comparison of laboratory results obtained by testing samples collected through the direct purchase of the motor fuels from company-operated stations at scattered points about January 1 of each of the years 1931, 1932 and 1933. These samples were collected in a manner typical of good practices the laboratory testing procedure was that prescribed by the A.S.T.M. and the result from year to year are comparable because all tests were made by the same laboratory personnel and equipment.

These samples are collected and tested each year by the refining organization for its own guidance as is the practice of practically all major refining companies. These data were made available to The Oil and Gas Journal. The survey is of particular interest at this time because the Bureau of Mines has not prepared its semiannual motor fuel survey covering the quality of winter this year. While the accompanying data do not cover a territory as extensive as the Bureau of Mines nor are these tests as complete as published here, there were enough samples collected of the major marketers in this survey to permit definite trends to be recognized in the course of motor fuel quality.

### Basis of Survey

As a basis for the survey samples of each of the regular grade, the premium grade and the third grade of gasoline marketed by each of the following companies were purchased from the company-owned filling station on about the first day of the year for each of the past three years. The companies stations from which samples were purchased include the Standard Oil Co. of Ohio, Skelly Oil Co., Cities Service Oil Co., Barnsdall Oil Co., Continental Oil Co., Mid-Continent Refining Co., Phillips Petroleum Corp., Sinclair Refining Co., Magnolia Petroleum Co., Gulf Refining Co., The Texas Company and the Standard Oil Co. of Indiana. There are other important refining companies and marketers selling products throughout the Middle West who are not included here but to make the results of the survey comparable year after year, only those companies were included where it was possible to secure full data over the three years.

### Swapping Gasoline

Criticism of the tests might be raised on the basis that the practice of one refining company exchanging its gasoline at one point for the product of another refining company at some other point does not permit a true comparison. This practice is not to be denied but a full consideration of the factors which permit this to be done will show there is a closer agreement among these companies on what constitutes good motor fuel and this does not change the course of the trend. Also, since all motor fuels are working toward a standard of relatively narrow range in the individual specifications, those companies which make such exchanges as mentioned here usually require that a fuel be supplied which meets a definite set of specifications. So, while refiner A may supply the stations of refiner B with gasoline at Chicago and refiner B supplies the stations of company A at Kansas City, the gasoline purchased at all of A's stations or all of B's throughout the Middle West will be of a like quality and the individuality of the respective company's gasoline is maintained.

## Trend in Quality of Winter Motor Fuels

Average of laboratory tests made on samples of gasoline purchased at scattered points in middle western states from company-operated stations.

**Regular Grade**

| | January 1, 1931 | January 1, 1932 | January 1, 1933 |
|---|---|---|---|
| Octane number | 60 | 61 | 65 |
| Initial point | 97° F. | 94° F. | 94° F. |
| 10 per cent | 148 | 143 | 139 |
| 20 per cent | 182 | 173 | 166 |
| 50 per cent | 265 | 256 | 247 |
| 90 per cent | 373 | 377 | 365 |
| Endpoint | 411 | 404 | 406 |
| Recovery, per cent | 96.9 | 96.7 | 96.5 |
| Reid vapor pressure, pounds | 6.4 | 9.0 | 9.5 |

**Premium Grade**

| | January 1, 1931 | January 1, 1932 | January 1, 1933 |
|---|---|---|---|
| Octane number | 72 | 74 | 76 |
| Initial point | 94° F. | 97° F. | 96° F. |
| 10 per cent | 141 | 146 | 142 |
| 20 per cent | 170 | 171 | 177 |
| 50 per cent | 246 | 248 | 237 |
| 90 per cent | 361 | 352 | 350 |
| Endpoint | 403 | 393 | 399 |
| Recovery, per cent | 97.6 | 96.9 | 96.4 |
| Reid vapor pressure, pounds | 7.5 | 8.1 | 9.0 |

**Third Grade**

| | January 1, 1932 | January 1, 1933 |
|---|---|---|
| Octane number | 51 | 53 |
| Initial point | 102° F. | 96° F. |
| 10 per cent | 152 | 148 |
| 20 per cent | 193 | 181 |
| 50 per cent | 276 | 264 |
| 90 per cent | 380 | 368 |
| Endpoint | 426 | 426 |
| Recovery, per cent | 97.3 | 97.3 |
| Reid vapor pressure, pounds | 6.5 | 7.6 |

### Volatility

A review of the accompanying table which shows average results of tests made on all samples of like grade for each year, clearly indicates the trend toward greater volatility. The average 20 per cent distillation point and the average 50 per cent distillation point in the case of regular grade of gasoline has shown a marked improvement. This might have been accomplished by the increased use of natural gasoline or by recovering a larger portion of the light vapors within the refinery as the result of cracking.

Some refiners have chosen one course while others have favored the other. In all cases, however, the refiner is limited by the capacity of his cracking equipment if he wishes to depend upon this alone to supply the needed volatility in his motor fuel. Because of this limitation, natural gasoline serves as a convenient, and, under ordinary conditions, a very economical means of supplying volatility.

### Effect of Cracking

Just at this time natural gasoline is gaining popularity in supplying this need. Refiners in general have not increased their cracking capacity. Except for a relatively few companies, it may be pretty safely said that the cracking facilities have depreciated or became obsolete at a faster rate than replacements have been made.

This is the direct result of adverse general economic conditions and cannot be correctly interpreted to mean that refiners think any less of the principles of cracking nor that they will permit such a condition to go much further.

The first revision of the trend will probably be seen as refiners modifying their existing cracking units by adding heater capacity or exchanger capacity to permit higher operating temperatures to be maintained or to increase the throughput. Several refiners in the Mid-Continent area have already completed such a program and at least five others have rather definite plans to make such revisions.

This program of revamping existing units can be considered only as a temporary means of improvement, however, because there has been a certain amount of obsolescense or depreciation which has accrued against the cracking chamber, tower exchangers, method of operation, etc., which cannot be removed by a simple revamping program.

### Use of Natural Gasoline

While the extent of cracking has some relation to the volatility of the motor fuel produced at the plant, the idea is advanced here that the revision in cracking units will not suffice to bring all gasoline up to the desired volatility if the present trend toward lower 20 per cent and 50 per cent distillation points is to be maintained. Also, it is believed that until such a time as economic conditions improve to change the attitude of refiners regarding major investments in entirely new cracking equipment, vapor recovery plants, stabilizers, etc., natural gasoline will be called upon in an increasing volume to fill the gap between the natural volatility and the desired volatility. Then, even after the use of cracking has been greatly extended it is reasonable to expect a large volume of natural gasoline to be utilized in motor fuel, not for the purpose of supplying a low initial point or a low 10 per cent or 20 per cent point, but to build up the center of the curve from the 30 per cent point to the 70 per cent point.

This factor has been stressed by several companies and it so happens that those companies have been quite successful in selling their gasoline in competition with the average run of motor fuels. This is not a new practice on the part of the pioneers for they have been promoting this idea for several years but only recently other companies have revised their gasolines along the same line and this move now seems to indicate its correctness from a marketing standpoint and practically guarantees a general adoption.

### Average Tests

Returning to the table showing the average test results it will be seen that the average 20 per cent point on January 1, 1931 was 182° F. One year later it was reduced to 173° F. and on the first of this year it was further reduced to 166° F. This change was effected without any great revision in the initial point which is shown as 97° F., 94° F. and 94° F., respectively.

While the above discussion applies to the regular grade of gasoline, it is interesting to note the opposite trend is shown in the case of the premium grade. Here the average 20 per cent point increased each year, On January 1, 1931, this was 170° F., a year later 171° F. and on the first of this year was 177° F.

If these data are accepted as representative it would indicate that the regular grade of gasoline has been improved from the standpoint of volatility at the 20 per cent point until it now equals that of the average premium grade.

This does not hold true when making a comparison at the 50 per cent points, however. In the case of the premium grade the 50 per cent point has been consistently reduced over the period in question and on the first of this year was 10 degrees under that shown as the average of the regular grade.

This was arrived at partly by lowering the second half of the distillation range and partly by building up the middle portion of the distillation curve with light stabilized fractions. This assumption is made because an appreciable increase is shown in the Reid vapor pressure over this period and because there was reduction in the recovery of more than 1 per cent over this period. From these facts it seems reasonable that the 50 per cent point of the regular gasoline will be further reduced.

### Third Grade Gasoline

The inferiority of the third grade of gasoline is evident by comparing a number of characteristics but aside from the difference in the octane value among the three grades, the differences in the 20 per cent and 50 per cent points are most pronounced.

Tests on the third grade of gasoline are included here covering a two-year period only because many of the companies represented here did not sell a third grade motor fuel at all points as early as January 1, 1931. It will be noted that the same trend toward greater volatility is shown in the third grade as was shown in the regular grade. In fact, the volatility of the third grade of gasoline has been improved considerably and apparent-

ly more attention has been paid this than to its octane value.

In most cases, the third grade gasoline is a straightrun product which owes much of its satisfactory operating qualities from the standpoint of starting or antiknock value to the natural gasoline which is blended with it. A refinery gasoline of the 46 octane number may be blended with an equal volume of 18-pound natural to make a 57 octane motor fuel.

### Octane Value

While natural gasoline has played an important part in improving the volatility of motor fuels, it has also improved its antiknock value. It would be difficult to state to what degree the improvement in the average octane number of each the regular, premium and third grade over the three-year period is due to natural gasoline, but certain developments have taken place in the past year, which distinctly favor the use of natural gasoline to increase the antiknock value of the blend. It has been found that at the higher operating temperatures of the motor, natural gasoline has a higher antiknock stability than cracked gasoline. Because of the instability of certain motor fuels maintaining their antiknock rating, it has been difficult to correlate the laboratory motor test with the actual performance of the fuel in a motor operating under a load on the road. Because it now seems certain that a higher operating temperature will be specified for laboratory testing motor fuels containing a high percentage of natural gasoline will gain an advantage so a still greater advantage will accrue from the use of natural gasoline in building up the octane number of the blend.

### Vapor Pressure

A more important development favoring the increased use of natural gasoline is the division of motor car design to favor more volatile motor fuels. In speaking before the Transportation Group of the American Society of Automotive Engineers, Dr. Graham Edgar, director of research, for the Ethyl Gasoline Corp. recently said: "More volatility would permit somewhat cooler intake temperatures. Cooler intake temperatures would result in somewhat higher mean effective pressures."

It has also been shown that automobile engineers and fuel experts at the Bureau of Standards are assuming a more liberal attitude toward motor fuels of reasonably high vapor pressure.

Recent research at the Bureau of Standards indicate that motor fuels of a Reid vapor pressure up to 16 pounds may be used in the winter in northern states,

(Continued on Page 36)

## Tests on Three Grades of Gasoline Sold by Refiners Through Midwest Stations in Past Three Winters

### COMPANY A

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 56 | 60 | 65 |
| Initial | 91 | 100 | 90 |
| 10 per cent | 156 | 152 | 130 |
| 20 per cent | 190 | 180 | 156 |
| 50 per cent | 266 | 258 | 234 |
| 90 per cent | 378 | 360 | 352 |
| Endpoint | 427 | 400 | 393 |
| Recovery | 97.0 | 97.0 | 96.0 |
| Reid V. P. | 5.1 | 8.2 | 10.7 |
| Color | 21 | 20 | amber |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 72 | 75 | 77 |
| Initial | 88 | 98 | 90 |
| 10 per cent | 132 | 150 | 136 |
| 20 per cent | 164 | 178 | 169 |
| 50 per cent | 258 | 248 | 260 |
| 90 per cent | 385 | 350 | 360 |
| Endpoint | 410 | 394 | 394 |
| Recovery | 96.5 | 97.5 | 96.0 |
| Reid V. P. | 10.0 | 7.8 | 10.4 |
| Color | red | red | red |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 56 | 54 |
| Initial | 96 | 90 |
| 10 per cent | 140 | 137 |
| 20 per cent | 174 | 164 |
| 50 per cent | 290 | 257 |
| 90 per cent | 394 | 366 |
| Endpoint | 415 | 409 |
| Recovery | 97.0 | 98.0 |
| Reid V. P. | 7.8 | 7.2 |
| Color | blue | blue |

### COMPANY B

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 61 | 61 | 66 |
| Initial | 100 | 89 | 101 |
| 10 per cent | 145 | 144 | 160 |
| 20 per cent | 178 | 180 | 190 |
| 50 per cent | 262 | 262 | 262 |
| 90 per cent | 380 | 374 | 370 |
| Endpoint | 412 | 400 | 410 |
| Recovery | 96.0 | 95.0 | 98.0 |
| Reid V. P. | 6.9 | 11.3 | 9.2 |
| Color | 24 | 30 | 25 |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 70 | 70 | 72 |
| Initial | 92 | 92 | 94 |
| 10 per cent | 134 | 136 | 136 |
| 20 per cent | 162 | 160 | 156 |
| 50 per cent | 245 | 228 | 218 |
| 90 per cent | 369 | 340 | 322 |
| Endpoint | 395 | 384 | 382 |
| Recovery | 95.0 | 96.0 | 97.0 |
| Reid V. P. | 10.2 | 9.5 | 10.2 |
| Color | .. | .. | .. |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 54 | 54 |
| Initial | 94 | 104 |
| 10 per cent | 150 | 156 |
| 20 per cent | 190 | 185 |
| 50 per cent | 276 | 260 |
| 90 per cent | 378 | 385 |
| Endpoint | 426 | 427 |
| Recovery | 96.5 | 97.6 |
| Reid V. P. | 9.0 | 7.5 |
| Color | blue | blue |

### COMPANY C

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 62 | 48 | 65 |
| Initial | 98 | 98 | 100 |
| 10 per cent | 161 | 156 | 145 |
| 20 per cent | 185 | 188 | 176 |
| 50 per cent | 269 | 264 | 258 |
| 90 per cent | 382 | 380 | 373 |
| Endpoint | 420 | 417 | 417 |
| Recovery | 96.5 | 97.5 | 96.0 |
| Reid V. P. | 6.8 | 7.5 | 8.4 |
| Color | 30 | 30 | 14 |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 72 | 73 | 78 |
| Initial | 93 | 102 | 93 |
| 10 per cent | 136 | 152 | 130 |
| 20 per cent | 166 | 180 | 154 |
| 50 per cent | 250 | 250 | 217 |
| 90 per cent | 390 | 362 | 326 |
| Endpoint | 424 | 400 | 382 |
| Recovery | 96.0 | 97.5 | 96.0 |
| Reid V. P. | 8.5 | 7.7 | 10.0 |
| Color | red | red | red |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 49 | 49 |
| Initial | 102 | 98 |
| 10 per cent | 160 | 145 |
| 20 per cent | 188 | 177 |
| 50 per cent | 262 | 274 |
| 90 per cent | 386 | 374 |
| Endpoint | 421 | 420 |
| Recovery | 97.5 | 97.0 |
| Reid V. P. | 7.3 | 7.3 |
| Color | blue | 22 |

### COMPANY D

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 52 | 60 | 62 |
| Initial | 103 | 95 | 92 |
| 10 per cent | 158 | 142 | 138 |
| 20 per cent | 194 | 176 | 167 |
| 50 per cent | 278 | 258 | 248 |
| 90 per cent | 386 | 374 | 382 |
| Endpoint | 419 | 418 | 419 |
| Recovery | 97.5 | 97.0 | 96.0 |
| Reid V. P. | 5.5 | 8.8 | 10.0 |
| Color | 24 | 22 | 27 |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 73 | 75 | 76 |
| Initial | 102 | 97 | 96 |
| 10 per cent | 158 | 148 | 136 |
| 20 per cent | 191 | 178 | 155 |
| 50 per cent | 276 | 248 | 224 |
| 90 per cent | 380 | 350 | 328 |
| Endpoint | 414 | 396 | 385 |
| Recovery | 98.0 | 97.0 | 96.5 |
| Reid V. P. | 5.2 | 7.4 | 9.6 |
| Color | red | red | red |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 46 | 50 |
| Initial | 106 | 102 |
| 10 per cent | 168 | 156 |
| 20 per cent | 198 | 190 |
| 50 per cent | 274 | 280 |
| 90 per cent | 388 | 396 |
| Endpoint | 429 | 426 |
| Recovery | 98.0 | 97.0 |
| Reid V. P. | 5.7 | 6.6 |
| Color | blue | 30 |

### COMPANY E

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 59 | 58 | 61 |
| Initial | 98 | 100 | 98 |
| 10 per cent | 153 | 150 | 150 |
| 20 per cent | 190 | 178 | 180 |
| 50 per cent | 276 | 250 | 260 |
| 90 per cent | 375 | 350 | 374 |
| Endpoint | 416 | 395 | 418 |
| Recovery | 97.0 | 97.5 | 97.0 |
| Reid V. P. | 4.9 | 8.0 | 8.4 |
| Color | 19 | 26 | 26 |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 72 | 75 | 65 |
| Initial | 89 | 98 | 118 |
| 10 per cent | 136 | 150 | 178 |
| 20 per cent | 166 | 176 | 200 |
| 50 per cent | 248 | 250 | 262 |
| 90 per cent | 360 | 352 | 376 |
| Endpoint | 404 | 395 | 426 |
| Recovery | 96.5 | 97.5 | 98.0 |
| Reid V. P. | 6.8 | 7.3 | 4.4 |
| Color | red | red | red |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 50 | 52 |
| Initial | 102 | 95 |
| 10 per cent | 158 | 150 |
| 20 per cent | 196 | 187 |
| 50 per cent | 286 | 270 |
| 90 per cent | 392 | 385 |
| Endpoint | 434 | 430 |
| Recovery | 97.0 | 97.0 |
| Reid V. P. | 5.7 | 7.2 |
| Color | blue | blue |

### COMPANY F

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 64 | 60 | 64 |
| Initial | 95 | 84 | 90 |
| 10 per cent | 132 | 116 | 122 |
| 20 per cent | 154 | 132 | 142 |
| 50 per cent | 234 | 206 | 219 |
| 90 per cent | 376 | 371 | 386 |
| Endpoint | 422 | 420 | 418 |
| Recovery | 97.0 | 97.0 | 96.0 |
| Reid V. P. | 8.6 | 13.0 | 10.7 |
| Color | 26 | 30 | 17 |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 72 | 71 | 78 |
| Initial | 94 | 94 | 92 |
| 10 per cent | 130 | 128 | 122 |
| 20 per cent | 152 | 146 | 140 |
| 50 per cent | 230 | 225 | 209 |
| 90 per cent | 365 | 368 | 374 |
| Endpoint | 408 | 414 | 423 |
| Recovery | 96.5 | 98.5 | 97.0 |
| Reid V. P. | 9.6 | 8.5 | 10.5 |
| Color | red | red | red |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 46 | 51 |
| Initial | 104 | 90 |
| 10 per cent | 166 | 135 |
| 20 per cent | 204 | 170 |
| 50 per cent | 286 | 235 |
| 90 per cent | 389 | 387 |
| Endpoint | 422 | 431 |
| Recovery | 97.5 | 97.0 |
| Reid V. P. | 5.0 | 8.4 |
| Color | blue | blue |

### COMPANY G

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 58 | 66 | 66 |
| Initial | 92 | 96 | 94 |
| 10 per cent | 142 | 140 | 140 |
| 20 per cent | 178 | 174 | 165 |
| 50 per cent | 274 | 257 | 251 |
| 90 per cent | 362 | 350 | 362 |
| Endpoint | 390 | 382 | 397 |
| Recovery | 96.5 | 97.0 | 98.0 |
| Reid V. P. | 6.3 | 8.4 | 7.5 |
| Color | 21 | 21 | 30 |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 71 | 77 | 79 |
| Initial | 92 | 99 | 96 |
| 10 per cent | 140 | 146 | 145 |
| 20 per cent | 169 | 178 | 173 |
| 50 per cent | 240 | 242 | 240 |
| 90 per cent | 344 | 342 | 352 |
| Endpoint | 407 | 378 | 388 |
| Recovery | 96.5 | 96.0 | 95.5 |
| Reid V. P. | 6.8 | 9.3 | 8.5 |
| Color | red | red | red |

**Third Grade**

| | | | |
|---|---|---|---|
| Octane number | 51 | 56 | |
| Initial | 103 | 92 | |
| 10 per cent | 164 | 139 | |
| 20 per cent | 200 | 166 | |
| 50 per cent | 268 | 254 | |
| 90 per cent | 368 | 360 | |
| Endpoint | 402 | 399 | |
| Recovery | 96.0 | 98.5 | |
| Reid V. P. | 6.4 | 7.4 | |
| Color | green | 28 | |

### COMPANY H

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 56 | 65 | 66 |
| Initial | 99 | 95 | 96 |
| 10 per cent | 160 | 144 | 132 |
| 20 per cent | 194 | 176 | 160 |
| 50 per cent | 262 | 253 | 245 |
| 90 per cent | 366 | 365 | 353 |
| Endpoint | 412 | 402 | 394 |
| Recovery | 97.5 | 96.0 | 97.0 |
| Reid V. P. | 5.8 | 8.2 | 8.4 |
| Color | 24 | 28 | 18 |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 72 | 75 | 78 |
| Initial | 85 | 96 | 98 |
| 10 per cent | 134 | 151 | 156 |
| 20 per cent | 168 | 172 | 182 |
| 50 per cent | 256 | 246 | 244 |
| 90 per cent | 378 | 371 | 360 |
| Endpoint | 399 | 404 | 406 |
| Recovery | 95.0 | 95.5 | 97.0 |
| Reid V. P. | 9.1 | 7.0 | 7.7 |
| Color | red | red | red |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 56 | 49 |
| Initial | 97 | 96 |
| 10 per cent | 151 | 143 |
| 20 per cent | 189 | 179 |
| 50 per cent | 269 | 272 |
| 90 per cent | 384 | 371 |
| Endpoint | 422 | 418 |
| Recovery | 97.0 | 97.0 |
| Reid V. P. | 7.0 | 7.5 |
| Color | blue | 19 |

### COMPANY I

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 63 | 64 | 66 |
| Initial | 98 | 90 | 90 |
| 10 per cent | 152 | 140 | 132 |
| 20 per cent | 185 | 173 | 162 |
| 50 per cent | 260 | 256 | 238 |
| 90 per cent | 355 | 370 | 350 |
| Endpoint | 392 | 405 | 398 |
| Recovery | 97.0 | 95.0 | 96.0 |
| Reid V. P. | 6.8 | 11.0 | 10.2 |
| Color | 16 | amber | amber |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 70 | 76 | 76 |
| Initial | 101 | 101 | 98 |
| 10 per cent | 148 | 152 | 151 |
| 20 per cent | 171 | 182 | 180 |
| 50 per cent | 226 | 256 | 251 |
| 90 per cent | 321 | 362 | 360 |
| Endpoint | 377 | 394 | 399 |
| Recovery | 98.0 | 96.0 | 97.5 |
| Reid V. P. | 5.9 | 7.0 | 7.4 |
| Color | red | red | red |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 56 | 60 |
| Initial | 116 | 94 |
| 10 per cent | 176 | 154 |
| 20 per cent | 205 | 186 |
| 50 per cent | 267 | 258 |
| 90 per cent | 367 | 361 |
| Endpoint | 425 | 419 |
| Recovery | 97.0 | 98.0 |
| Reid V. P. | 4.0 | 7.8 |
| Color | 22 | 22 |

### COMPANY J

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 64 | 60 | 66 |
| Initial | 98 | 98 | 89 |
| 10 per cent | 148 | 148 | 132 |
| 20 per cent | 181 | 180 | 156 |
| 50 per cent | 258 | 258 | 234 |
| 90 per cent | 358 | 370 | 348 |
| Endpoint | 398 | 404 | 388 |
| Recovery | 97.0 | 97.0 | 96.0 |
| Reid V. P. | 5.7 | 7.2 | 9.8 |
| Color | 23 | 29 | 27 |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 72 | 76 | 78 |
| Initial | 97 | 99 | 95 |
| 10 per cent | 148 | 143 | 140 |
| 20 per cent | 180 | 176 | 170 |
| 50 per cent | 248 | 254 | 250 |
| 90 per cent | 358 | 364 | 352 |
| Endpoint | 401 | 398 | 381 |
| Recovery | 97.0 | 97.0 | 96.0 |
| Reid V. P. | 6.9 | 8.1 | 9.2 |
| Color | red | red | red |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 52 | 55 |
| Initial | 104 | 97 |
| 10 per cent | 164 | 154 |
| 20 per cent | 196 | 184 |
| 50 per cent | 270 | 262 |
| 90 per cent | 374 | 387 |
| Endpoint | 414 | 434 |
| Recovery | 98.0 | 96.0 |
| Reid V. P. | 6.4 | 7.6 |
| Color | green | 21 |

### COMPANY K

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 58 | 58 | 66 |
| Initial | 94 | 90 | 87 |
| 10 per cent | 136 | 134 | 137 |
| 20 per cent | 168 | 168 | 174 |
| 50 per cent | 278 | 260 | 259 |
| 90 per cent | 380 | 365 | 367 |
| Endpoint | 418 | 397 | 396 |
| Recovery | 97.5 | 97.5 | 95.0 |
| Reid V. P. | 6.7 | 9.1 | 10.4 |
| Color | 30 | 30 | 26 |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 73 | 74 | 76 |
| Initial | 103 | 94 | 88 |
| 10 per cent | 151 | 137 | 136 |
| 20 per cent | 176 | 163 | 162 |
| 50 per cent | 228 | 232 | 240 |
| 90 per cent | 322 | 326 | 345 |
| Endpoint | 390 | 375 | 389 |
| Recovery | 98.0 | 98.0 | 96.0 |
| Reid V. P. | 5.5 | 7.6 | 10.0 |
| Color | red | red | red |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 49 | 55 |
| Initial | 96 | 96 |
| 10 per cent | 152 | 148 |
| 20 per cent | 178 | 190 |
| 50 per cent | 277 | 284 |
| 90 per cent | 382 | 384 |
| Endpoint | 434 | 423 |
| Recovery | 98.0 | 97.0 |
| Reid V. P. | 6.7 | 7.4 |
| Color | blue | 27 |

### COMPANY L

**Regular Grade**

| | Jan. 1, 1931 | Jan. 1, 1932 | Jan. 1, 1933 |
|---|---|---|---|
| Octane number | 62 | 67 | 68 |
| Initial | 95 | 95 | 98 |
| 10 per cent | 148 | 145 | 148 |
| 20 per cent | 180 | 175 | 177 |
| 50 per cent | 266 | 254 | 251 |
| 90 per cent | 380 | 374 | 362 |
| Endpoint | 407 | 410 | 426 |
| Recovery | 96.0 | 96.5 | 96.5 |
| Reid V. P. | 7.2 | 8.8 | 9.7 |
| Color | amber | amber | amber |

**Premium Grade**

| | | | |
|---|---|---|---|
| Octane number | 73 | 76 | 78 |
| Initial | 97 | 96 | 96 |
| 10 per cent | 146 | 140 | 136 |
| 20 per cent | 178 | 165 | 160 |
| 50 per cent | 248 | 224 | 230 |
| 90 per cent | 359 | 332 | 351 |
| Endpoint | 402 | 388 | 422 |
| Recovery | 98.0 | 96.5 | 94.0 |
| Reid V. P. | 6.1 | 9.5 | 10.0 |
| Color | red | red | red |

**Third Grade**

| | | |
|---|---|---|
| Octane number | 48 | 54 |
| Initial | 107 | 102 |
| 10 per cent | 174 | 160 |
| 20 per cent | 202 | 190 |
| 50 per cent | 255 | 260 |
| 90 per cent | 362 | 361 |
| Endpoint | 434 | 440 |
| Recovery | 98.0 | 97.5 |
| Reid V. P. | 6.6 | 6.2 |
| Color | green | green |

# New Dubbs Unit at Shell Plant Has Two Heaters and Cracks Wide Range of Charging Stocks

By W. T. ZIEGENHAIN

By using dual furnaces in the Dubbs cracking unit recently completed at the Houston, Tex., refinery of the Shell Petroleum Corp., ideal conditions are obtained for processing a long range of charging stocks and a unique, economical, arrangement also provides for utilizing the excess heat to rerun the pressure distillate made on the six other Dubbs cracking units now operating in that plant.

The new unit supplies the Shell with a motor fuel of improved anti-knock value and because of the marked flexibility of its operation, will permit balancing the operations within the refinery under changing marketing and general operating conditions.

The new unit, known as No. 7, was completed approximately two months ago. In that time it has processed a rather wide variety of charging stocks for the purpose of ascertaining its flexibility and to determine the yield value of certain stocks when cracked. Within this time the unit has handled 24.5 gravity Refugio crude, 24 gravity bottoms from East Texas crude, pressure distillate bottoms, gas oil, 48 gravity straightrun naphtha and 52 gravity pressure distillate as charging stocks.

No attempt will be made here to outline the operating conditions necessary to most advantageously crack each of these stocks or their various combinations but the above fact is mentioned to emphasize the flexibility permitted.

The following dicussion will be based upon the unit handling a daily charge of 9,000 to 10,000 bbls. of raw 52 gravity pressure distillate made on the six other Dubbs units plus 2,000 to 2,500 bbls. daily of 450 endpoint straightrun naphtha. This method of operation is typical of the routine duty in which it is to be placed.

Because of the relatively short time which the unit has operated in this manner it is probable that slight modifications of operating conditions, yields, etc., will be realized over the future and even better results might be obtained than stated here.

### Present Operation

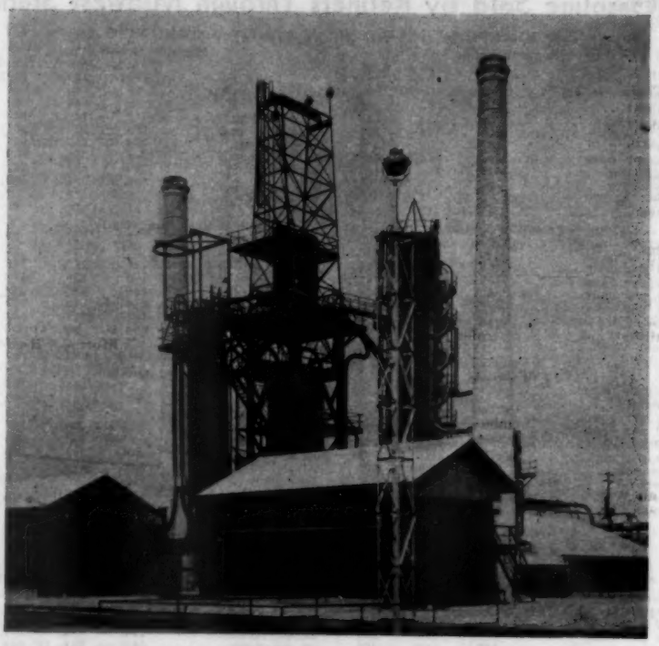
Under the present refinery operating conditions approximately 9,500 bbls. of pressure distillate are made on the first six Dubbs units. These crack a mixture of topped East and West Texas crudes in a nonreoil, low liquid level flashing operation. The composite of the distillate from these units will range between 52 and 54 in gravity and will yield approximately 75 per cent 400 endpoint gasoline when fractionated in a standard Badger laboratory column. This distillate is untreated and raw and goes to five 18,000-gallon tanks maintained at 30 to 50 pounds pressure. These tanks simply act as intermediate storage for the continuous charge going to the new unit. This distillate is withdrawn from storage and charged to the unit through a vapor heat exchanger, after which it enters the fractionating tower at a point about three quarters up the column of trays.

The pressure within the tower is maintained at 50 pounds. The temperature at the top is controlled by means of a liquid trim so as to produce an overhead of 400 to 410 endpoint. As will be seen later, this overhead is a combination of light fractions from several sources.

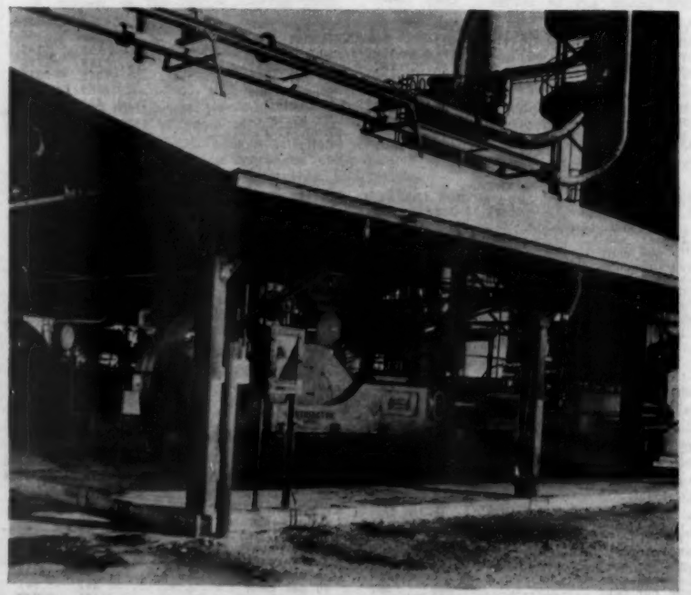
### Cracking P. D. Bottoms

The bottoms from the pressure distillate are continuously withdrawn from the base of the tower by means of a Worthington crank and flywheel type hot oil pump. Approximately 2,500 bbls. of these bottoms are thus introduced into the system daily as indicated by the 25 per cent yield previously mentioned. However, due to recycling, between 10,000 and 11,000 bbls. of hot oil is withdrawn from the base of the tower daily. Without stating the sources of this volume of uncracked heavy fractions now, the course of it will be traced from the tower through the cracking zone.

The hot oil pump takes suction on the bottom of this tower and its speed is governed by a Foxboro liquid level control on the tower. The oil leaves the tower at about 600° F. and is passed through a Leach exchanger. Here it picks up enough heat to raise its temperature to about 680° F. at which temperature the oil then enters the cracking coils. The inlet pressure on the oil may be up to 950 pounds. The oil in the transfer line leaving the furnace is approximately 935° F. in temperature. After the oil leaves this furance it enters the reaction chamber where the pressure is maintained at 300 pounds.



*General view of No. 7 Dubbs cracking unit at the Shell Petroleum Corp. refinery near Houston, Texas. In the foreground are the two furnaces which are now handling a raw charge of 4,000 to 5,000 barrels daily*



*Open type pump house showing the two crank and fly wheel Worthington charging pumps, a feature of the new Dubbs installation*

The unit has been designed to permit a range of pressures in the reaction chamber from 200 to 475 pounds and the optimum pressure is determined by experimental settings and, of course, varies with the types of charging stock and quality of the overhead desired. The liquid in the reaction chamber is continuously withdrawn from the base through a de Florez remote-control valve.

At this point in the system a small quantity of relatively cool oil is introduced into the line to dampen any tendency for the oil to "overcrack" and to cool the valve. This cooling medium is withdrawn from the base of the fractionating tower and pumped through water submerged coils and into the line just ahead of the de Florez control valve. The steam then enters a separatory chamber where the cracked light fractions are taken off overhead and the heavy bottoms are withdrawn from the base. The residuum thus withdrawn is a low cold test fuel oil containing less than 1 per cent b.s. and water. It is being blended with lighter fuel oils and marketed. Tests on samples of the 6 gravity fuel oil, picked at random while running as outlined here, showed the residuum to contain less than .2 per cent b.s. and water. Obviously, the formation of coke has been reduced to a negligible factor.

The overhead vapors pass through the Leach exchanger and into the fractionating tower to a point near its base, where, as was stated previously, the pressure is held at about 50 pounds. In the tower a clean separation is made between the light and heavy fractions, the lighter fractions leaving the tower and going to the stabilizing plant while the heavier fractions are withdrawn and recycled.

### Charge Naphtha and Distillate

Up to this point the cycle of operations has been similar to that of a conventional cracking unit, when using but one furnace. The new shell unit provides the added feature that it is equipped with a second furnace and conditions may be maintained therein to most economically crack or reform light distillates and naphtha to produce a motor fuel of 78 to 80 octane number.

There are two sources of charging stock. One of these is the raw straightrun naphtha which is continuously withdrawn from two 20,000-bbl. storage tanks. The raw naphtha is delivered to these tanks from the crude oil topping unit. This naphtha is generally of a quality having an initial point near 280° F. and ranges in endpoint from 400 to 450° F.

Approximately 2,000 bbls. of this naphtha is taken into the system daily. It is charged to the second furnace. As the second source of charging stock it will be seen that an appreciable quantity of light distillate is available as a side stream off the fractionating tower. This side cut may be taken off at a number of points and for this reason its quality may be varied over a wide range. This represents another medium aiding in controlling the over-all operations of the unit.

The volume of this side cut will approximate that of the naphtha so the furnace handles about 4,000 bbls. of the combined streams daily. It is charged through to the furnace by another Worthington crank and flywheel type pump.

### Reforming Furnace

This furnace is similar to the other furnace in design except that it has slightly smaller tubes. Both are gas-

fired Alcorn type radiant heat furnaces equipped with floor tubes. No difficulty has been experienced in the operation of these heaters during the various test runs in which a wide range of charging stocks were cracked.

The one furnace is fired to provide a transfer temperature between 960° and 1,000° F., depending upon the exact nature of the charge. The pressure on the transfer line is equalized with that of the outlet of the other furnace as both lines go to the same reaction chamber. From here on the light and heavy fractions resulting from cracking the naphtha and side cut lose their identity and are processed on through the unit with those fractions originating from the pressure distillate bottoms.

### Yield Data

It is difficult to ascertain the exact yields resulting from cracking each of the two fresh stocks charged but data collected indicates that the pressure distillate bottoms is cracked to produce approximately 50 per cent 400 endpoint motor fuel distillate of about 72 octane number before stabilizing, treating or rerunning. The naphtha is thought to break up to yield 80 to 85 per cent 400 endpoint motor fuel distillate of 78 to 80 octane number on the same basis.

Considering the yields of the unit, free of the effect of the large volume of endpoint motor fuel recovered from the pressure distillate charged to the tower, average results have indicated that 62 per cent of the pressure distillate bottoms and naphtha was recovered from the unit as 400 endpoint motor fuel before treating or stabilizing. On this same basis the yield of 6 gravity fuel oil is shown as 15 per cent, a loss of 2 to 3 per cent by weight is accounted for by evaporation and the gas production lies between 300 and 350 feet per barrel. This gas contains from 3 to 5 gallons of 30 pound vapor pressure natural gasoline per thousand feet and is recovered in the vapor recovery plant.

Although no attempt has been made to fix an operating cycle it is assumed that runs of 60 days duration will be realized as a routine procedure when cracking these light distillates.

## Light Fractions Maintain High Antiknock Rating

(Continued from Page 16)

tane numbers will contain all the ones determined by these methods almost without exception. Close inspection of the physical characteristics of these samples indicates there is some relation between the oil content of the natural gasoline and its tendency toward appreciation in going to the more severe antiknock test methods. The oil content appears to exert a harmful effect totally out of proportion to its volume.

6. Unethylized natural gasoline loses less octane number on the average in changing from the C.F.R. research method to the Ethyl corporation's HTS method than unethylized motor fuels by about 4 octane numbers.

Data are not yet available on the C.F.R. motor method but it is expected that natural gasoline will hold its octane number by this test as well as it does on the high temperature and high speed methods given here.

## Commission Opens East Texas Hearing at Tyler

(Continued from Page 7)

other interested parties in attendance, attesting that the hearing had assumed greater proportions than might have been expected when the call was first issued.

### LEGISLATIVE OIL COMMITTEE

AUSTIN, Tex., Jan. 16.—Texas senators have been named who will serve on the committee that considers and reports upon legislation affecting the oil industry during the present regular session and the special session of the next two years.

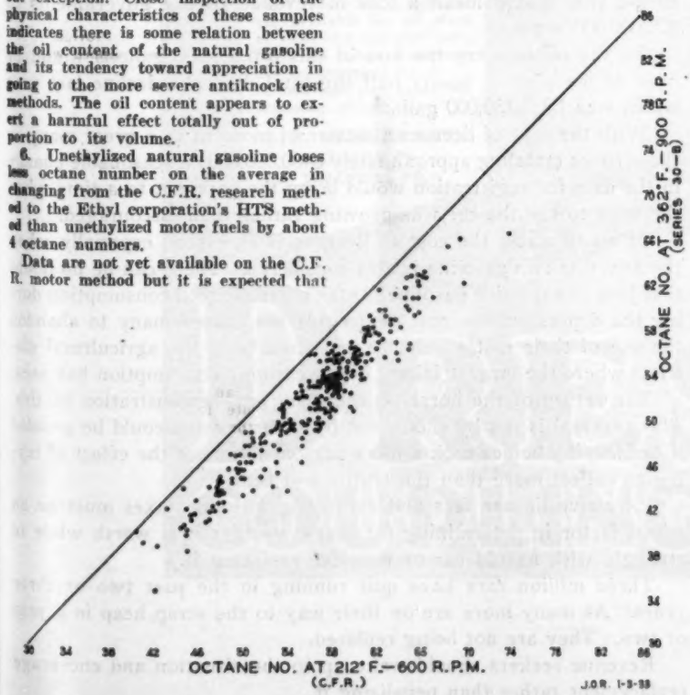
The state affairs committee, to which, by custom, oil legislation is sent, includes these members: Senators W. K. Hopkins, chairman; Walter F. Woodul, Houston, vice chairman; W. B. Collie, Eastland; W. R. Cousins, Beaumont; Tom DeBerry, Bogata; T. J. Holbrook, Galveston; John W. Hornsby, Austin; W. N. Martin, Hillsboro; Joe Moore, Greenville; Ben G. Oneal, Wichita Falls; Archie Parr, Benavides; George C. Purl, Dallas; Nat Patton, Crockett; K. M. Reagan, Pecos; Gus Russek, Schulenburg; Clint C. Small, Wellington; and Walter C. Woodward, Coleman.

### HIGHWAY USERS MEET

CHICAGO, Jan. 16.—Illinois Highway Users Conference members at a meeting here elected a board of directors made up of representatives of industries and groups directly interested in restricting taxation activities by legislatures against users of highways. Among the new directors who will meet next week to select five members for the executive committee were F. E. Packard, general counsel of Standard Oil Co. (Indiana), and G. A. Primm, secretary of the Illinois Petroleum Marketers Association.

### REPORT WELL IN PORTUGAL

Discovery of the first oil well in Portugal in many years is reported at Vallongo, near Oporto. A group of Portuguese capitalists announced they were ready to finance exploitation of the well if the potential output appeared to warrant.




*3—Chart showing comparison of octane numbers of motor fuels at 212° F. and 362° F. Gasolines shown were not ethylized*

# Committee Named by A. P. I. Refinery Group to Direct Motor Fuel Research

Committees on motor fuel research, fire prevention in refineries, and the disposal of refinery wastes have been appointed by Walter Miller, chairman of the Central Committee on Refinery Technology of the Division of Refining of the American Petroleum Institute. The personnel of the three committees follows:

Committee on Motor Fuel Research—Chairman, R. P. Anderson, American Petroleum Institute; D. P. Barnard, Standard Oil Co. (Indiana), Whiting, Ind.; A. L. Beall, Vacuum Oil Co., Inc., New York; Sydney Bevin, Tide Water Oil Co., Bayonne; H. W. Camp, Empire Oil & Refining Co., Tulsa; A. Ludlow Clayden, Sun Co., Detroit; Graham Edgar, Ethyl Gasoline Corp., New York; G. W. Gray, The Texas Company, New York; J. Bennett Hill, Atlantic Refining Co., Philadelphia; C. O. Johns, Standard Oil Development Co., New York; George R. Lord, Sinclair Refining Co., New York; Walter Miller, Continental Oil Co., Ponca City; G. G. Oberfell, Phillips Petroleum Co., Bartlesville, Okla.; T. B. Rendel, Shell Petroleum Corp., Wood River, Ill.; C. H. Schlosman, Standard Oil Co. of New York, Brooklyn; H. G. Smith, Gulf Refining Co., Philadelphia; and J. B. Terry, Standard Oil Co. of California, Richmond, Calif.

Committee on Fire Prevention in Refineries—Chairman, C. H. Haupt, Standard Oil Co., Elizabeth; secretary, D. V. Stroop, American Petroleum Institute; H. W. Camp, Empire Oil & Refining Co., Tulsa; D. W. Carswell, The Texas Company, New York; C. J. Cutting, Atlantic Refining Co., Philadelphia; S. J. Dickey, General Petroleum Corp., Los Angeles; H. H. Hall, Standard Oil Co. of California, San Francisco; Herbert Henderson, Gulf Refining Co., Pittsburgh; William Hildebrandt, Bartles-Maguire Oil Co., East Chicago, Ind.; L. D. Jurs, Associated Oil Co., San Francisco; W. W. Lowe, H. L. Doherty & Co., New York; L. G. Metcalf, Union Oil Co. of California, Los Angeles; Walter Miller, Continental Oil Co., Ponca City; E. D. Seymour, Vacuum Oil Co., Inc., New York; C. W. Smith, Standard Oil Co. (Indiana), Chicago; D. E. Sullivan, Pure Oil Co., Chicago; N. W. Thompson, Shell Oil Co., San Francisco; T. D. Tifft, Sinclair Refining Co., New York; and C. E. Townsend, Sun Oil Co., Philadelphia.

Committee on Disposal of Refinery Wastes—Chairman, John S. Hess, Sinclair Refining Co., New York; secretary, D. V. Stroop, American Petroleum Institute; H. W. Camp, Empire Oil & Refining Co., Tulsa; John Carlstrom, The Texas Company, Port Arthur, Tex.; W. B. Hart, Atlantic Refining Co., Philadelphia; L. G. Metcalf, Union Oil Co. of California, Los Angeles; L. Mittelman, Associated Oil Co., Associated, Calif.; W. S. Nix, Shell Oil Co., Wilmington, Calif.; W. E. Soden, Sun Oil Co., Marcus Hook, Pa.; E. E. Swope, Magnolia Petroleum Co., Beaumont; C. L. Waite, Standard Oil Co. of New Jersey, New York; G. W. Watts, Standard Oil Co. (Indiana), Whiting, Ind.; and G. H. Westbrook, Gulf Refining Co., Port Arthur, Tex.

## Wright Chosen Chairman of Mid-Continent A.I.M.E.

At the annual meeting of the Mid-Continent section of the American Institute of Mining Engineers held in Tulsa on the evening of January 16, H. H. Wright, petroleum engineer, Gypsy Oil Co., was elected chairman for the new year. He succeeds Clarel B. Mapes, of the Mid-Continent Oil and Gas Association.

The other new officers are: S. Chalmers, first vice chairman; I. W. Alcorn, second vice chairman; E. A. Hansen, secretary-treasurer. The executive committee is made up of C. B. Mapes, D. R. Snow, L. A. Ogden and R. K. Huey. They are all residents of Tulsa except L. A. Ogden who is with the Empire Companies, Bartlesville, Okla.

Paul F. Lewis, manager of American Glycerin Co., Tulsa, read a paper on "Explosives, Characteristic Ingredients and Peculiar Actions Under Various Conditions." Clarel B. Mapes also presented some interesting facts relative to unit income and unit cost of oil production and the changing ratio during the past few years.

### IDAHO GAS LINE?

According to the Payette, Idaho, Independent, the Consolidated Oil Co. may lay a pipe line for natural gas in western Idaho, the work to be started early in the spring. The gas would be piped to Payette and Weiser and if sufficient quantity is developed, also to Boise City. The company now has one well completed with an open flow of 5,000,000 feet and 280 pounds rock pressure.

### LEGAL

For Sale. By order of the District Court sealed bids will be received by me until March 1 for the following property in Ward County, Texas, viz.: Straight oil and gas lease on 40 acres N.E. part of Section 16, Block 32, H.&T.C. Rwy. Co. Survey. Well producing 12 barrels sweet oil daily, 32 gravity. Depth 2,240 feet. Also has 7,000 feet 2-inch line, 2,100 feet 2-inch tubing in well, three oil tanks capacity 100, 250 and 500 barrels. Pipe line connection. Court reserves right to reject any or all bids. Certified check for 10 per cent of bid must accompany each bid. C. C. Dorr, Receiver, Grand Falls, Texas.

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## Give Him a Chance

Gasoline consumption during 1932 was not nearly so bad as had been predicted by the pessimistic. Instead of the 15 per cent drop looked for by some it is now found to be but 9.2 per cent.

The domestic demand, indeed, did much better, showing a decline of only 7.8 per cent from the previous year then an all-time record.

The domestic consumption last year amounted to 376,078,000 barrels a decline of 31,765,000 barrels from the 407,843,000 barrels used in 1931.

But in 1929, the peak year of general prosperity, the gasoline consumption was only 371,852,000 barrels and it had never topped 300,000,000 barrels until 1928 when it was 328,489,000 barrels.

In 1929 we had a total registration of over 26,500,000 motor vehicles. By 1931 this had shrunk to under 24,000,000 and last year it was probably nearer 23,000,000.

All this considered, the way domestic gasoline consumption has held up is truly remarkable. In the first six months of 1932 the drop was 6.8 per cent for domestic use and 7.3 for the total. The worst month was August with a total decline of 15 per cent. Consumption was lowest in December when the total decline was 11.4 per cent.

Exports continued to decline, however, from 45,716,000 barrels to 35,831,000 barrels, or 21.6 per cent, largely due to our customers abroad getting their supplies from refineries in other countries, particularly since the enactment of the tariff.

We have to go back to 1925 to find exports as low. Then they jumped to 43,000,000 for two years, next year to 51,000,000 and in 1929 to pass 60,000,000 barrels.

Whereas in 1928 our exports of gasoline were equal to almost 16 per cent of our domestic consumption and in 1929 a little over 16 per cent, they had fallen to 11 per cent in 1931 and to about 9.5 per cent last year.

While this trend continues it is all the more necessary not to overlook any possibility for improving our domestic position which has held up so remarkably while other businesses show declines of 30, 50 and even 75 per cent.

The campaign against increasing gasoline taxation is making some headway. Even Governor Charles W. Bryan of Nebraska has recommended that the legislature of that State reduce the tax on gasoline from 4 cents to 3 cents per gallon. He recognizes that "existing conditions demand it in the interests of the taxpayers."

The politicians in Congress, however, have not yet seen the light and propose to continue the Federal tax because it is easily collected. So long as the 23,000,000 motor owners of the country confirm this impression by submitting to it without protest they will continue to be discriminated against by tax leving bodies, state or national.

The new American Petroleum Industries committee can do good work in arousing interest in this matter. Without organization the taxpayer is helpless. With organization he can get results as witness the success of organized minorities in compelling legislative bodies to heed their behests.

The National Automobile Chamber of Commerce and the American Automobile Association ought to be enlisted in this movement which is as much to their interest as to that of the oil industry.

In line with the effort to hold down gasoline taxation there is another matter directly affecting car owners and the oil industry.

This is the recognized fact that the custom of states in setting registration dates around the first of the year or in the depth of winter leads to a large number of motor owners postponing the buying of new licenses with a consequent failure to use their cars and a resulting loss in gasoline and motor oil consumption.

It is calculated that from 10 to 50 per cent, with an average of 20 per cent, of the motor vehicles in the various states are idle from December 31 of one year to April 1 of the next, because of failure to buy licenses at the beginning of the year.

In the colder states the inclination to jack up the car for the winter is intensified by the necessity of buying a new license, postponement of that expense seeming an added reason for putting the car away for the season.

If the registration date was made April 1 or May 1 these cars, in most cases, would continue to operate, producing revenue for the states through gasoline taxation and increasing consumption.

If, as estimated, 20 per cent of the motor vehicles are left out of commission for 90 days this means that of a total of 24,000,000 motor vehicles 4,800,000 would be off the road.

Calculating only 480 gallons per car per year, this three months or one-fourth idleness would leave only 360 gallons per car, or a loss of 576,000,000 gallons in a year.

With the average tax, state and Federal, now over 5 cents a gallon that would mean a loss in revenue to the governments of $28,000,000 a year.

To the oil industry the loss of this 576,000,000 gallons would be over 43 per cent or nearly half the total domestic decline last year which was 1,333,130,000 gallons.

With the cost of licenses a matter of moment to a great many in these times (totaling approximately $400,000,000) a seasonable change in the date for registration would bring the payment to a time when the urge to use the car was growing rather than discouraged.

In many states the cost of licenses is excessive, especially when the heavy tax on gasoline is also considered. There can be no doubt that just as excessive gasoline taxation has reduced consumption during the depression the cost of licenses has caused many to abandon the use of their motor vehicles, particularly in the agricultural districts where the largest falling off in gasoline consumption has been.

The return of the horse on the farm is a demonstration of this. This reversal is not by choice but by necessity and could be avoided if tax levying bodies took a more reasoned view of the effect of trying to collect more than the traffic will bear.

Excessive license fees and exorbitant gasoline taxes must be an added factor in determining for many whether it is worth while to struggle with an old car or consider replacing it.

Three million cars have quit running in the past two or three years. As many more are on their way to the scrap heap in a year or two. They are not being replaced.

Revenue seekers should wake up to the situation and encourage replacement rather than penalizing it.

Give the taxpayer a chance to have something to pay taxes on.

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# Declines Halted in Oklahoma Refinery Markets as Trade Awaits Crude Oil Developments

By C. O. WILLSON

The decline in Oklahoma (Group 3) prices on refinery products which was general the first half of January except for lubricants and wax, was stopped the first two days of this week. It was too early to determine whether the firmness in prices was more than temporary although several of the sellers were hopeful that conditions in the crude oil situation would change over the last half of the month so that the improvement in refinery markets would continue.

A group of East Texas and Texas Panhandle refiners who have been leading in the recent declines in motor fuel prices had reduced their offerings the first of the week and in a few cases at least had advanced their quotations in deliveries over the last half of the month. At the same time there is still considerable resale material in the hands of brokers for shipment before February 1 which will continue to be a factor pointing to low prices over the balance of the month.

Markets were steady in kerosene, distillate, gas oil and low cold test fuels after a 10-day period in which there was marked weakness in all grades. The Mid-Continent supplies of these products are limited and while the spot demand continues slow little distress material is being forced on the market. It is felt that a period of low temperatures which is predicted by weather bureaus later in the month would bring an over-night business for the better grades of distillates, gas oils and fuel oils which would strengthen open market quotations and might cause prices to advance to late December levels.

So far as basic conditions in the Mid-Continent refinery markets are concerned there is little change from last week. The East Texas proration situation is still unsettled and a satisfactory enforcement plan is yet to be worked out, low priced oil still being available to refiners who have been largely responsible for the declines in prices over the past several months. The Mid-Continent industry is in the midst of an "investigation period" in Oklahoma, Texas and Kansas by state officials, and the attitude of the trade is "that anything may happen" as a result of these investigations having direct bearing on refinery markets. Such a condition tends to restrict buying and sellers mark time, hesitating to take either a bullish or bearish position in regard to future price trends.

In this connection the statement issued by A. M. Maxwell, vice president of the Standard Oil Co. of Ohio in charge of sales, is interesting as briefly summarizing conditions in both tank car and retail gasoline sales. The statement follows:

"Present indications are that in 1933 there will be 350,000 fewer cars registered in Ohio than in 1930, and that in the country registrations will be approximately 5,000,000 fewer."

"Registrations of motor cars in 1933 probably will not exceed 21,500,000, compared with 26,524,000 in 1930," he said. "Although the number of cars in use has steadily dropped during the depression, the number of gasoline service stations has not declined but actually has increased. In 1930, it is estimated, there were 160 cars in use for each service station. Today there are about 120 cars for each station.

"The dwindling of customers caused some retailers to seek to hold their business last year through price cuts and secret discounts. The result was that the whole market structure was weakened and gasoline sold at a loss.

"That is the picture on the retail side. In the oil fields similar forces have been working. Efforts to curtail crude oil output and maintain prices have been seriously weakened by illegal production of oil, in defiance of curtailment laws. This has added to the excess of crude oil, much of which has been sold below officially posted prices. This crude oil finds its way to the market as cut-rate gasoline, upsetting both crude oil and gasoline price structures. Since October wholesale gasoline prices have dropped 50 per cent. Retail price declines have followed naturally."

There have been additions over the past week in the number of independent

## Refined Market Barometer

Scattered reductions continued to materialize in tank car prices for refinery gasolines at several points throughout the United States over the past week although in some of the lowest priced refining centers, quotations were firmer. The lower gasoline tank car prices were accompanied by additional reductions in tank wagon and service station prices. Natural gasoline prices were firmer in the Mid-Continent but weak in California. No important changes were reported in burning oils which continue strong at most coastal points. Changes in fuel oils and gas oils were local in scope and a fair demand is generally reported. No special activity was reported in lubricants and spot wax prices were lower in the East.

**Mid-Continent**—Decline in refinery gasolines stopped first of week and natural gasolines firm. Minor changes in kerosene and distillates. Good demand for low cold test gas oil and fuel oils. High cold test fuels slow. No change in lubricants and wax.

**East Coast**—Refinery gasoline tank car prices lower. Kerosene strong. More furnace oil available including materials coming from California. Weakness apparent in bunker fuels. Wax fails to hold advances of previous week. Prices on cylinder stocks less.

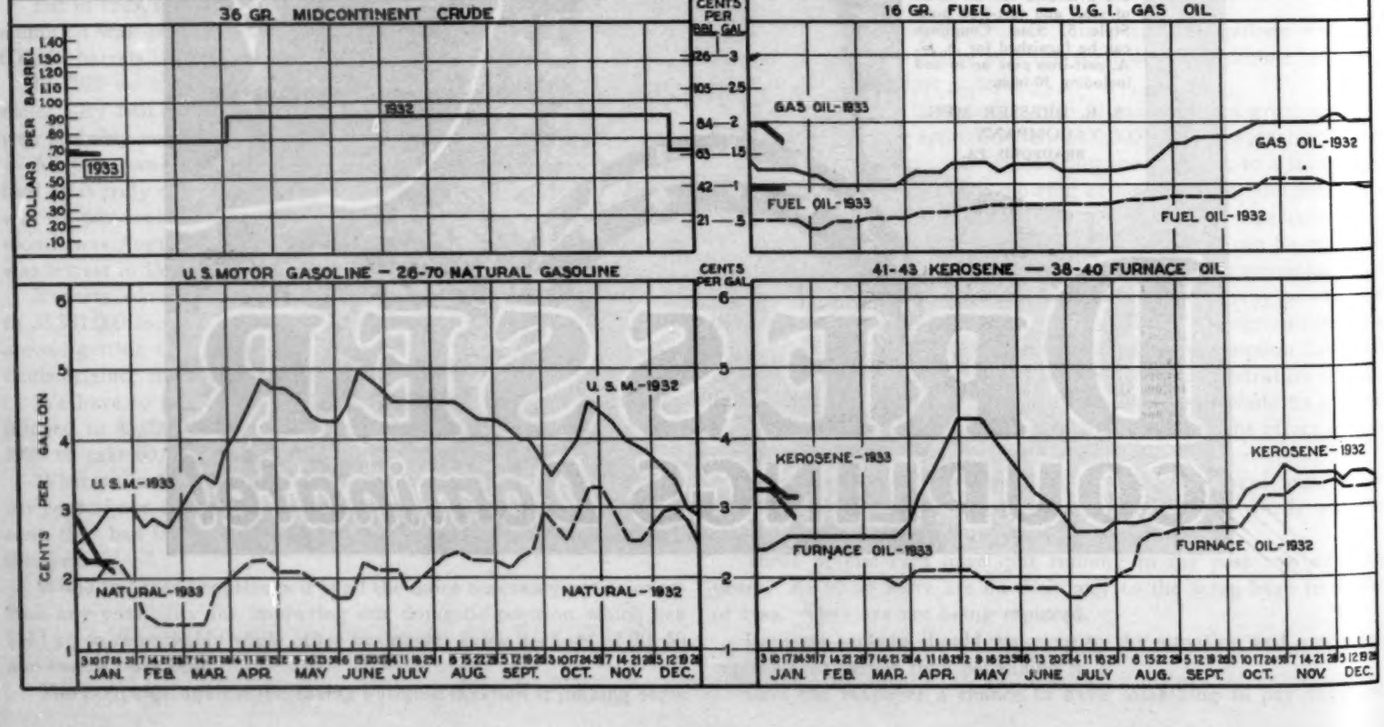
**Gulf Coast**—Gasoline market unsettled due to competition of East Texas. Kerosene scarce. Fuel prices steady but little new demand. More inquiries for pale oils.

**Chicago**—Most grades of burning oils lower in price. More kerosene available. Little change in gasoline which continues weak. Fuel oil prices lower.

**Pennsylvania**—Gasoline market weak. Kerosene steady. Some grades of steam refined stocks lower..

**California**—Gasoline market weakens and prices lower in Los Angeles district. Fuels steady.

### Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



refiners in the Mid-Continent who have reduced their posted prices for crude oil. These schedules are explained elsewhere in this issue. In general they amount to reductions of from 15 to 30 cents a barrel when compared with the posted schedules of the major buyers. The refiners in making these new postings state that they are necessary in order to enable them to compete in a low priced refinery market. They point out that their new postings of around 50 cents per barrel for the high gravity crudes in the older Mid-Continent fields is still 25 cents higher than the average prices being paid by a group of refiners who obtain their crude oil from East Texas fields. However, many of the independent producers strongly object to these lower schedules and several cases were reported in Kansas and North Texas over the past week in which they have refused to sell and have either shut down their wells or have been able to secure connections from the major buyers.

These lower prices paid for crude oil by independent refiners obviously is gradually weakening the whole price structure for crude oil, it being conceded that major purchasers will shortly meet these lower schedules in their own postings unless something happens to change the present trend toward further weakness.

### Transportation Costs

The recent declines in the gasoline tank car and service station prices has resulted in more and more attention being paid to transportation costs in refinery sales. With practically all grades of gasoline selling on the open market under 3 cents, in many sales, the cost of rail transportation between the refinery and point of delivery is more than the refinery price.

"As long as prices for refinery products, particularly gasoline, continue at anywhere near their present ridiculously low levels refiners and marketers must look to savings in transportation costs for possible profits," one Oklahoma refiner said last week. This same refiner pointed out that due to the expansion of crude oil and gasoline pipe lines throughout the Middle West and part of the Southwest, there is hardly a major consuming point where the refiner, transporting in tank cars is not at a disadvantage and is practically prohibited in making shipments of several hundred miles.

The situation in Ohio at present shows how Oklahoma and other Mid-Continent refiners for example are shut out of sales in that territory. The general service station price in Ohio at present is 14 cents which includes a 5-cent Federal and state tax which means a net service station price of 9 cents. Allowing 5 cents for marketing and 3.564 cents per gallon to cover tank car transportation cost from Oklahoma to Columbus, Ohio, and the net back to an Oklahoma refiner would be less than a half cent per gallon. In fact based on some contracts which guarantee the jobber more than 5 cents per gallon for marketing, the tank car basis Oklahoma would be a minus quantity. In addition the third grade gasoline which in the Middle West now represents around 25 per cent of total sales must be taken into consideration. On contracts, jobbers usually buy the third grade at least one-half cent under the regular grade which means additional reduction in the refinery return. The price situation in Ohio is so bad that complaints are heard from refiners who ship from plants located as close as Chicago, western Pennsylvania, West Virginia and Kentucky.

The competitive situation of Oklahoma refiners improves slightly west from Ohio but cannot be said to be satisfactory at any point east of the Mississippi River where shipments are made in tank cars. In Chicago, which is a base point for the Middle West, the present service station price for the regular gasoline is 14.1 cents which includes taxes of 4 cents making a net service station price of 10.1 cents. Allowing 5 cents for marketing and 2.442 cents for rail transportation the net back to the refinery is 2.658 cents per gallon. Although this is approximately the same as the open market quotation for the regular grade, it is at least 1 cent too low based on present refinery costs.

The refiner with plants in the Chicago district served with a gasoline pipe line might be able to absorb this 1 cent through profits in pipe line operation but to the Mid-Continent refiner without these facilities it means a loss in total operating revenue. This condition is more favorable at some points west of the Mississippi and closer to the Mid-Continent. For instance at Omaha, the service station price is 18.25 cents which includes taxes of 5 cents or net service station price of 13.25 cents. Allowing 5 cents for marketing and 2.244 cents for freight the net back to Oklahoma, is 6.01 cents. About the same situation applies to Des Moines and some of the other large consuming points based on the regular grade gasoline. Due to this condition many Oklahoma and Kansas refiners are centering their sales activities on points closer to their refineries. The fear is expressed that due to this strong competition that retail prices will be reduced at many of these favorable points and the marketing territory for the Mid-Continent will be further restricted. In this connection several independent gasoline pipe line projects extending from Oklahoma and Kansas refineries north have been rumored. One company which will shortly complete a modern refinery at McPherson is known to have definite plans for connecting its refinery to the Nebraska border where a large truck and rail terminal will be built. This line would result in substantial savings in shipments within Nebraska and points north.

The significance of savings in transportation are not confined to gasoline. The restrictions in the sale of heavy fuels have been so important that Mid-Continent sales of low gravity material have been largely confined to short hauls. The rail rate on fuels and gas oils from Oklahoma to Chicago is 93.24 cents per barrel and where necessary the Chicago group of refiners have been passing on this freight rate advantage to their customers in their delivered prices so that return to a Mid-Continent refiner attempting to compete would be only a few cents per barrel at his plant.

### Gasoline and Naphtha

East Texas refiners who have sold low octane U. S. Motor gasoline under 2 cents basis Group 3 since the first of the year were generally asking a low of 2⅛ cents on Monday and Tuesday. Business was slow at that level and there was no certainty that the price would be maintained. Practically all Oklahoma refiners were quoting a low of 2¼ cents to the trade for the same grade.

Most Oklahoma refiners continue to ask three-eighths or one-half cent more for their middle octane (regular) gasoline although East Texas refiners often sell a product which has a minimum octane of at least 60, at one-eighth or one-fourth cent above the low octane price. The 390, 375 and 360 endpoint refinery gasolines continue inactive and prices are nominal.

### Natural Gasolines

The natural gasoline market was firmer the first of the week following a decline in prices in which quotations on the 26-70 grade dropped to a low of 2⅛ cents both in Oklahoma and Texas. Some extra buying the latter part of last week prevented further declines and may result in a price recovery. Companies with terminals at the Gulf Coast were reported to have purchased approximately 2,000,000 gallons of 26-70 and other grades for prompt shipment. Due to the lower freight rates from Texas, a large part of this new business was placed with Texas manufacturers and the market on 26-70 was relatively stronger there the first of the week than in Oklahoma, reversing the recent price situation.

The demand centered in grades of from 20 to 26 vapor pressure and due to that fact the 18-55 and lower vapor pressure grades were moving slowly. Sales of 18-55 at 2½ to 2⅝ cents were reported with 14-16 pounds at 2¾ and 11 pounds at 3 cents.

### Kerosene and Distillate

There were no general changes from last week in kerosene and distillate quotations. There was less "dumping" of inventories on the part of refiners and the first of the week buyers were not able to cover their requirements for certain grades of furnace oils in Oklahoma. All grades of furnace oils from 32 gravity zero to 41 prime white have been sold over the same price ranges during the week.

The low endpoint specification kerosenes are not freely available and the low priced offerings are usually for material which would not be satisfactory to many buyers. Sales range up from a low of 3⅛ cents in sales to the trade.

There is a fair demand for low viscosity fuel oil, suitable for use as special fuels. Prices on these grades are unchanged. Some low prices are being quoted on high cold test fuels in East Texas but due to freight rates these oils are not as important in the Oklahoma market. The movement of bright stocks, neutral oils and steam refined stocks is routine with prices unchanged.

## NAVY TO BUY FUEL OIL AT GULF

NEW YORK, Jan. 16.—The bureau of supplies and accounts, Navy Department, Washington, D. C., will open bids January 27 on schedule 0440 for 330,000 gallons of grades "A" and "C" bunker fuel oil for delivery at Gulf Coast ports.

Government petroleum contracts reported awarded last week include the following: Henry H. Cross Co., 250,000 gallons of fuel oil, $0.0093 per gallon, f.o.b. Smackover, Ark., for delivery to U. S. Engineer at Kansas City. Gulf Refining Co., 800,000 gallons of Bunker "C" fuel oil, at 80 cents per 42-gallon barrel, for delivery to U. S. Engineer at Providence. Indian Refining Co., 5,000 bbls. of fuel oil for delivery to U. S. Engineer at Louisville, at $1.05 per barrel, f.o.b. Paducah, Ky. Gulf Refining Co., for delivery to U. S. Engineer at Savannah, 50,000 gallons of fuel oil at $1,665 for the lot, and 300,000 gallons of Diesel oil at $10,500 for the lot.

# American Petroleum Institute Weekly Refinery Statistics

Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

**Week Ending January 14, 1933, Compared to Week Ago**

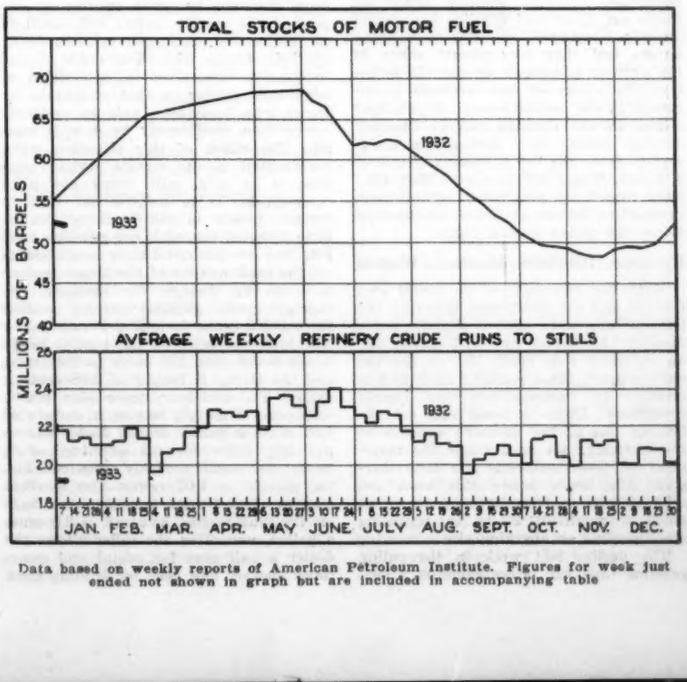
| | Week ending January 14, 1933 | | | | Week ending January 7 | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| East Coast | 99.1 | 396,000 | 12,821,000 | 7,722,000 | 99.1 | 409,000 | 12,723,000 | 7,936,000 |
| Appalachian | 95 0 | 83,000 | 1,703,000 | 848,000 | 95.0 | 78,000 | 1,740,000 | 816,000 |
| Ind., Ill., Ky | 97.5 | 287,000 | 7,037,000 | 3,282,000 | 97.5 | 252,000 | 7,040,000 | 3,341,000 |
| Okla., Kans., Mo. | 84.9 | 187,000 | 4,703,000 | 2,742,000 | 84.9 | 175.000 | 4,687.000 | 2,725,000 |
| Inland Texas | 56 4 | 95,000 | 1,431,000 | 2,185,000 | 56.4 | 94,000 | 1,499.000 | 2,151,000 |
| Tex. Gulf | 97.7 | 363,000 | 6,451,000 | 6,622,000 | 97.7 | 375,000 | 6,350,000 | 7,441,000 |
| La. Gulf | 97.3 | 94,000 | 1,289,000 | 2,499,000 | 97.3 | 75,000 | 1,440,000 | 2,583,000 |
| N. La. and Ark. | 88.5 | 48,000 | 336,000 | 467,000 | 88.5 | 40,000 | 312,000 | 449,000 |
| Rocky Mtn. | 90.8 | 24,000 | 1,117,000 | 451,000 | 90.8 | 22,000 | 1,131,000 | 465,000 |
| California | 94.6 | 407,000 | 15,376,000 | 99,654,000 | 94.6 | 413,000 | 15,326,000 | 99,792,000 |
| Total U. S. | 91.6 | 1,984,000 | 52,264,000 | 126,472,000 | 91.6 | 1,933,000 | 52,249,000 | 127,693,000 |

Total motor fuel stocks Bureau of Mines basis 53,365,000 bbls.

**Week Ending January 14, 1933, Compared to Year Ago**

| | Week ending January 14, 1933 | | | | Week ending January 16, 1932 | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (1) | (2) | (*3) | (4) |
| East Coast | 99.1 | 396,000 | 12,821,000 | 7,722,000 | 100 0 | 409,900 | 4,937,000 | 7,684,000 |
| Appalachian | 95 0 | 83,000 | 1,703,000 | 848,000 | 91 8 | 84,400 | 1,418,000 | 1,450,000 |
| Ind., Ill., Ky. | 97.5 | 287,000 | 7,037,000 | 3,282,000 | 98.9 | 264,400 | 4,789,000 | 5,235,000 |
| Okla., Kans., Mo | 84.9 | 187,000 | 4,703,000 | 2,742,000 | 89.6 | 235,400 | 3,309,000 | 3,960,000 |
| Inland Texas | 56 4 | 95,000 | 1,431,000 | 2,185,000 | .... | 103,000 | 1,755,000 | 2,742,000 |
| Tex. Gulf | 97.7 | 363,000 | 6,451,000 | 6,622,000 | 99 8 | 403,600 | 6,754,000 | 8,204,000 |
| La. Gulf | 97.3 | 94,000 | 1,289,000 | 2,499,000 | 100.0 | 95,000 | 1,137,000 | 3,306,000 |
| N. La. and Ark. | 88.5 | 48,000 | 336,000 | 467,000 | . .. | 49,400 | 124.000 | 883,000 |
| Rocky Mtn. | 90.8 | 24,000 | 1,117,000 | 451,000 | 89.4 | 43,200 | 1,854,000 | 748,000 |
| California | 94.6 | 407,000 | 15,376,000 | 99,654,000 | 97 1 | 432,600 | 13,776,000 | 96,118,000 |
| Total U. S. | 91.6 | 1,984,000 | 52,264,000 | 126,472,000 | 95 2 | 2,124,900 | 39,853,000 | 130,330,000 |

*Stocks at refineries only.




Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table

# Chicago Area Refiners Are Beginning to Believe Lowering Prices Has Been Carried Too Far

By ROBERT C. CONINE
Chicago Bureau, The Oil and Gas Journal

CHICAGO, Jan. 16.—Market activities currently, pricewise, lead observers in the Chicago district to believe that many refiners and marketers are beginning to feel that they have gone too far in their attempts to anticipate in their selling policies the worst developments likely to arise from the unsettlement in crude oil production and refinery operations. With few exceptions the entire list of refined petroleum products in the Chicago district reflect a tendency to meet "distress" competition which would be ignored in periods of normal consumption. Apparently it is impossible to hark back more than three years to estimate what demand should be normally. Certain refiners have been sending mimeographed price sheets to Chicago marketers, and quotations have ranged from 2 cents for U. S. Motor and 2¼ cents for the middle octane grade material, to 2⅞ cents for 41-42 water white kerosene, resale prices. For several days now, however, these refiners have failed to answer inquiries and are understood to be selling direct to jobbers at slightly higher prices. The East Texas refiner mentioned in these columns last week has advanced his prices an eighth of a cent as follows: 60 octane U. S. Motor, 2⅝ cents; 65 octane U. S. Motor, 2¾ cents. This refiner offers a blended 65 octane gasoline at 2⅝ cents, and has withdrawn from the markets on his 70 and above octane gasoline, which was quoted on the low of the daily published price range of the premium grade.

### Special Naphthas Settling Lower

A check over the territory and certain districts in Ohio reveals considerable dissatisfaction among buyers of special naphthas because they feel that these materials are "out of line" with developments in the markets of other refined petroleum products. Because crude oil prices are lower and gasoline has moved steadily downward, the special naphtha buyers feel that they should share in the current generosity of the oil industry. The effect of this attitude is reflected in the announcement of principal sellers in the Chicago district Monday cutting prices, with two products excepted, down the list a quarter of a cent a gallon. These sellers report that they have signed up practically all of their prospective buyers at prices fractionally below the prices quoted today.

### Kerosenes, Distillates, Residuals, Weaken

With the exception of the 28-30 zero fuel oil and the 26-28 zero material, the burning oils were quoted slightly lower Monday. Marketers are still hoping for an extended cold spell, but so far the only support these markets have had is credited to comparatively low supply conditions. There is some call for the heating oils in the northern sections of the territory, but as a whole the movement of these materials has been sluggish. The lower prices this week are said by certain large refiners to be as much a result of laxity in regarding specifications as anything else.

The decline last week in the ruling gasoline tank car prices came as a surprise to a majority of marketers and certain refiners. The feeling had been growing that the markets could not go lower and that the current low prices and increasing pressure on the crude oil markets would dictate a more conservative policy for crude oil producers and refiners alike. It was felt that the refiners realized that they were not bettering their situation by lowering the territory-wide price scale. Competitors would soon buy crude oil just as cheaply as any refiner and underselling would play out as a profitable venture. The crude oil producer, in turn, so Chicago marketers felt, would realize that they were getting less money for more crude oil with a threat that their oil would fall to the 5 and 10-cent levels of a past scramble for greater production. Therefore, the marketers were beginning to convince the jobbers, there is no risk attached to buying gasoline at the present price levels, and there is a good chance that buying now will be good business on the part of the jobber.

### Withdraw from Tank Car Markets

The lower price quotations as shown in daily publications have caused a number of refiners to withdraw from the gasoline tank car markets. Buyers have sought to obtain material at a flat price over a period of 30 days and have been turned down by the refiners. The refiners are prompt to point out that during the worst period in 1931 when East Texas crude oil was selling at 5 and 10 cents a barrel (some crude was reported to have been sold as low as 2½ cents a barrel), the low of the U. S. Motor price range did not break under 2 cents and was generally at the level of today's prices. However, it must be remembered that gasoline consumption was at a much higher level during the term of that debacle than now, and jobbers were not having as much difficulty in obtaining credit. In summing up the viewpoints in the Chicago district, the anomaly of better feeling and lower prices is revealed.

In the Chicago district oil trade circles there is one interesting school of opinion in which it is contended that the lowering of crude oil prices (promoted in a large measure by price sniping on the part of the smaller units) will result in the major and semimajor refiners filling up their storage with cheap crude oil and so placing themselves in a position of advantage similar to that of certain refiners who have been able to undersell competition consistently by a wide margin. The effect of this situation when transmitted to the service station markets, it is said, will wreck cut price competition. It is pointed out that in certain points in the territory dealers have deserted the tank car gasoline markets and are taking all their requirements off the tank wagons of the larger companies. In St. Joseph, for instance, the regular grade gasoline service station price is 9.9 cents, including 4 cents taxes. The tank car price on the regular grade is not lower than 2½ cents to the trade, and the Group 3 freight is 2.08 cents a gallon. The laid-down price plus tax is 8.58 cents a gallon, leaving a margin of 1.32 cents a gallon. If the dealer has to pay 2¾ cents for his gasoline, as is usual on small monthly requirements, the margin is 1.07 cents. The smallest margin of profit for a dealer who buys off the tank wagon, however, is 2.5 cents a gallon, and often the seller allows the dealer a half cent for rental and sometimes another half cent for hauling from the bulk plant. In Chicago one of the semimajors has reintroduced the outcast practice of permitting dealers to haul gasoline in their own trucks from the company's several bulk plants and allowing the dealer a half cent for hauling.

### Features in New Contracts

Several of the new contracts of the larger refiners marketing in the Chicago district set up a lower valuation of the regular grade gasoline in relation to the low octane third grade. In these contracts the tank car price of the low octane gasoline may not show a narrower margin than a quarter of a cent between it and the middle octane regular grade. A much more significant clause in at least one of these new contracts, in view of the already greatly overexpanded condition in the retail end of the business, is the provision that the seller will lend service station equipment to the buyer. Another company's contracts goes so far as to provide monetary advances to buyers.

In St. Louis last week one of the major companies which has been posting a service station price 1 cent under the prices of other companies, raised the posting 1 cent. In St. Louis the peculiar mental slant of a certain type of price cutter is revealed in the announcement of officials upon the closing of one company's five service stations in that city. A placard at each of the five stations states that "the chain gasoline companies are losing $1,000,000 monthly in St. Louis to wipe out independent operators, but after prices advance these stations will reopen and, as always, will undersell the big trusts." G. A. Primm, secretary of the Illinois Petroleum Marketers Association, says that while few dealers will sympathize with the operators of this first important casualty in the St. Louis price war because of their marketing tactics, the current subnormal postings are causing havoc among ethical independents.

### Proposed Wisconsin Law Features

The Wisconsin legislature is expected to pass a new motor fuel and light naphtha law this session. The law as it now appears, will call for certain gravity and recovery characteristics. The dealer will be allowed 1 per cent for collecting the gasoline tax and will thus be made an agent of the State and liable to prosecution for embezzlement if he does not turn the collections over to the State. The law will require that each dealer be bonded in the amount of double the average monthly receipts of each station. The most important feature of this bill is the proposal to change the gasoline tax law from one of excise or road tax, to a law permitting the deposition of revenue with the general fund. Last year the State collected $20,000,000 in gasoline taxes and $2,000,000 of this sum was returned in the form of rebates. In the new law there will be no provision for rebates of any kind, not even excepting farmers, for tractors and stationary engines; cleaners and dyers, for light cleaners and Stoddard naphthas, and aviators, for gasoline used in their airplanes.

Chicago distributors who sell to independents principally are considerably perturbed over developments in connection with the decision of bonding companies to cancel by February all outstanding bonds required of dealers by the Illinois Motor Fuel Tax law. Officials of the bonding companies assert that gasoline tax collections are conducted in so negligent a manner by the Illinois department of finance that the writing of these bonds entails excessive risks. These officials point out that the department of finance has permitted dealers to discount their debts to the State by payment of a lump sum; that the department has permitted dealers to pay on the installment plan, and that many dealers have not paid taxes since 1929. It is expected that little will be done to straighten out the situation until the new administration at Springfield has the reins well in hand. One of the first steps of the new governor, Henry Horner, was to oust the old highway construction department engineers.

### Gasoline Tank Car Markets

Gasoline tank car prices Monday were lower as follows: U. S. Motor, regular grade, 2½ to 2¾ cents, down an eighth of a cent; U. S. Motor, premium grade, 2¾ to 3¼ cents, cut from 3 and 3⅜ cents; U. S. Motor, third grade, 2¼ to 2½ cents, down an eighth of a cent on the low; 60-62 400 endpoint gasoline, 2⅜ to 2⅝ cents, down an eighth of a cent; 64-66 375 endpoint gasoline, 3⅛ to 3½ cents, down an eighth of a cent on the low; 68-70 360 endpoint gasoline, 3⅜ to 3⅝ cents, down from 3½ and 4 cents; aviation, fighting grade of no octane specifications, 3⅞ to 4⅛ cents, down an eighth of a cent.

### Special Naphtha Tank Car Markets

With the exception of the 140-200 lacquer diluent and the heavy petroleum spirits, which were unchanged, the prices Monday in the special naphtha tank car markets show declines of a quarter of a cent as follows: Cleaners naphtha, 5⅜ to 6 cents; lacquer diluent, 140-200, 8½ cents; lacquer diluent, 180-250, 7 to 7¼ cents; rubber solvent, 5⅜ to 6 cents; Stoddard solvent, 5¼ to 5½ cents; petroleum thinner, 4½ to 4¾ cents; V.M. &P. naphtha, 5½ to 5¾ cents; petroleum spirits, 4¼ to 4½ cents.

### Kerosene Tank Car Markets

The kerosene tank car markets are beginning to reflect increased output and continued sluggishness in movement. The lows of the ruling price ranges are unchanged, but shading has lowered the highs of the ranges an eighth of a cent. The 41-42 water white kerosene is offered at 3⅛ to 3¼ cents, and the 42-44 water white material is offered at 3¼ to 3⅜ cents.

### Distillates and Fuel Oils

The distillate and fuel oil markets weakened fractionally this week and a few sources are quoting everything from 32-36 special gas oil to kerosene in the same price range. The 28-30 and the 26-28 zero fuel oils alone withstood the downward pressure. Monday's prices are as follows: 32-36 straw distillate, 2⅞ to 3 cents, down an eighth of a cent; 38-40 straw distillate, 3 to 3¼ cents, down an eighth of a cent on the low; 32-36 industrial gas oil, 2 to 2¼ cents, down an eighth of a cent on the high; 28-30 zero fuel oil, $1.05 to $1.10; 26-28 zero fuel oil, $1 to $1.05; 22-26 zero fuel oil, 65 to 70 cents, down 5 cents a barrel; 18-22 zero fuel oil, 55 to 60 cents, down 5 cents a barrel; below 18° fuel oil, 50 to 55 cents, down 5 cents a barrel.

### Petroleum Coke Unchanged

Petroleum coke prices have stood up well under strong coal competition and continue unchanged.

# Tank Car Gasoline Price Reduction Is Featured In Eastern Coast Refined Products Market

By A. E. MOCKLER
New York Bureau, The Oil and Gas Journal

NEW YORK, Jan. 16.—Reductions in posted prices for refinery gasoline at all principal marketing points along the Atlantic Seaboard furnished the chief news in last week's refined products trading in this territory, price changes in other branches being of negligible interest.

The tank car price cuts, which had been expected by the trade, were initiated by the Standard Oil Co. of New Jersey in its territory, and by Standard Oil Co. of New York, Inc., in the New York and New England area. The reductions carry the posted market down to 5½ cents for U. S. Motor gasoline, below 65 octane, and 5¾ cents for motor fuel of 65 octane and above. The quotation on regular U. S. Motor is now only one-quarter cent above the 1932 low. The price cuts were forced by the continued shading of a few sellers in the tank car market, and while the present gasoline market cannot be termed a strong one, it is steadier than for some weeks, and principal factors in tank car distribution are generally adhering to posted levels. Refiners are openly apprehensive over the outlook, however, and emphasize the need for some definite solution of the East Texas problem as a preliminary to any real and lasting stabilization in refined products prices.

Export markets were doing a little better at the Gulf so far as gasoline and kerosene were concerned, but crude oil buying was at a standstill.

With U. S. Motor, under 65 octane, freely offered for domestic shipment at 3¾ cents, f.o.b. Gulf Coast, it is expected that gasoline from this area will continue to furnish stiff competition in local territory. California, with a posted price of 5¾ cents for U. S. Motor, under 65 octane, is entirely out of line with the present market, and no additional cargo business on the California product is looked for in the open market until the normal parity is restored.

As might be expected under the circumstances, jobbers have been loath to operate extensively in the present tank car market, and gallonage has been rather light during the past week, with distributors still on a hand-to-mouth basis, and carrying relatively light stocks at their storage.

### Tank Wagon Gasoline

The latest reductions in refinery gasoline have not yet been reflected in the tank wagon and service station, but no immediate alteration in posted prices is anticipated as rental price cuts prior to the latest reduction in tank car markets had already adjusted the tank wagon price basis to the lower wholesale markets. The undertone continued relatively easy, and localized price cutting was reported from several parts.

Demand has shown a sharp contraction in many parts of the eastern area, and retail stations are competing sharply for gallonage. Many retail station operators are giving their customers discounts in the form of service or greasing jobs. This is handled by giving regular customers a card, which is punched for each gallon of gasoline bought. When the card indicates the purchase of 75 or 100 gallons the motorist is entitled to 75 cents or $1 worth of work or service on his car.

Despite the colder weather, retail demand for premium gasoline continues limited. Some marketers are delivering the premium grades in the old-style steel barrels, their gallonage being too limited to permit of the use of their regular tank wagon trucks for this service.

### Furnace Oil

Although the tank wagon market is seriously upset in a few places by price cutting, the refinery division continues steady.

In the retail end, distributors continue to hold the market unchanged. Much of the present price cutting in tank wagon deliveries is centering around Baltimore and Washington, where distributors are utilizing both free service on burners and cut prices to stimulate sales. Most of the price cutting has been on the heavier oils.

Furnace oil from California and the Gulf is still moving into East Coast markets.

### Kerosene

The refinery market remains strong and active, with refiners posting 41-43 water white firm at 5½ to 6 cents, in tank car lots, f.o.b. terminals. California kerosene continues to arrive in moderate quantities.

Weather conditions have been favorable for the kerosene consumption, and tank wagon gallonage was reported to be quite heavy. Retail kerosene prices are firmly maintained.

### Bunker Oil

While the statistical position of heavy oils appears somewhat softer, there has been no indication of any impending reduction in Bunker "C" oil at Atlantic Coast prices. The present price, 75 cents at terminals, is only 15 cents above the all-time low recorded last year at a time when distressed crude from East Texas was flooding the market, and refiners contend the 75-cent price is justified by current market connections.

In connection with Bunker "C" oil quotations considerable bunker oil delivered on contracts at East Coast ports is imported, with the 75-cent quotation including a tariff of 21 cents per barrel, which the refiner has absorbed. Thus, in the case of imported fuel oil delivered at an Atlantic Coast port at 75 cents per barrel, the net price to the refiner is only 54 cents, which is the lowest quotation in history.

### Gas Oil

Contract movement of gas oil was a little broader and the market remained unchanged at 3½ to 4 cents for 28 gravity plus oil, in tank cars, f.o.b. terminals. Spot buying was of small amount.

### Diesel Oil

Routine contract withdrawals accounted for the bulk of the activity in last week's market, and sellers were continuing to post $1.65 in bulk at terminals. Refiners were reporting a good movement at principal ports.

### Paraffin Wax

The spot market failed to hold the fractional price increases put into effect during the previous week, and quotations were lower on most grades, under quiet trading.

Fully refined 120-122 a.m.p. was quoted at 2¾ cents a pound; 125-127 a.m.p. at 2¾ cents; 133-135 a.m.p. at 4 cents, and 135-137 a.m.p. at 4¼ cents, reductions of one-eighth cent in each instance. Export inquiry was slack and domestic buyers were also showing a disposition to hold off.

### Lubs

Cylinder oil markets again eased off after having exhibited a rallying tendency and reductions of one-half cent were made effective on the following grades (revised quotations being given in each instance): 600 S.R. unfiltered, 15½ cents; 650 S.R. unfiltered, 17½ cents; 600 flash S.R., 18½ cents; 630 flash S. R., 23½ cents; bright stock, No. 8 color, 23½ cents; bright stock, No. 6½ color, dil., 23 cents.

Export inquiry for cylinder oils was dull, buyers holding off the market in anticipation of possible downward revisions in Pennsylvania crude quotations, with a resultant further weakening in refiners asking prices for lubs.

Domestic demand for pale and red oils was slightly better with quotations holding unchanged on all grades.

## Exports and Imports of Refined Products; Receipts of California Oils in the East

NEW YORK, Jan. 16.—A stronger tone developed in the Gulf export market last week, suppliers who had been offering gasoline at the former low prices having revised their quotations upward. U. S. Motor was quoted one-eighth cent per gallon higher at 3⅝ cents, with 60-62, 400 endpoint, and 61-63, 390 endpoint, showing a corresponding advance at 3⅞ cents a gallon. The market for 64-66, 375 endpoint, was unchanged at 3⅞ to 4 cents per gallon.

Three inquiries for part cargoes of 64-66, 375 endpoint, gasoline were in the market, one each from England, Germany and France. The lots inquired for were for March-April shipment, and involved between 17,000 and 25,000 bbls. each. Buyers were seeking quotations c.i.f. European ports.

No cargo inquiries for kerosene were reported, but the market was in firmer position, under short supplies, with asking prices higher at 4¼ cents per gallon for prime white, and 4½ to 4⅝ cents per gallon for water white.

There are about five cargo inquiries for crude oil, for February-March loading, now pending in the market, involving in all some 400,000 bbls. Buyers are withholding the placing of this business until further adjustment of the producing situation in East Texas. All of the inquiries are from Continental Europe.

Latest quotations on refined products reported from the Rumanian export terminal of Constanza figure out at 4.55 cents per gallon for light gasoline, 3.79 cents per gallon for heavy gasoline, and approximately 47 cents per barrel for fuel oil. There have been no further reports from abroad in connection with the operation of the Rumanian export and pricing compact, recently confirmed at a meeting in Paris between representatives of the Rumanian Association of Petroleum Industrialists and spokesmen for the major American and European oil companies which participated in the negotiations.

### Petroleum Exports

The following table shows exports of principal refined petroleum products reported from the port of New York during the three weeks ending January 7 (all figures in gallons unless otherwise noted):

| | Week ended | | |
|---|---|---|---|
| | Jan. 7 | Dec. 31 | Dec. 24 |
| Gasoline | 158,000 | ..... | 25,000 |
| Naphtha | ..... | 2,000 | 260,000 |
| Kerosene | 2,000 | 2,000 | 20,000 |
| Fuel and gas oil | 1,060,000 | 195,000 | 25,000 |
| Lubricating oil | 565,000 | 2,393,000 | 550,000 |
| Petroleum, refined | 168,000 | 12,000 | 220,000 |
| | Pounds | | |
| Petrolatum | ..... | 10,000 | 116,000 |
| Paraffin wax | 895,000 | 1,005,000 | 2,860,000 |
| Refined | 116,000 | 50,000 | 190,000 |
| Scale | 125,000 | 350,000 | 530,000 |
| Lubricating grease | 460,000 | 320,000 | 435,000 |

### Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended January 7 totaled 552,000 bbls., a daily average of 78,857 bbls., compared with 1,337,000 bbls., a daily average of 191,000 bbls. for the previous week, and a daily average of 144,214 bbls. for the four weeks ended January 1. Details follow:

| | Bbls. of 42 gals. |
|---|---|
| At Atlantic Coast ports: | |
| Baltimore | 65,000 |
| New York | 487,000 |
| Total | 552,000 |
| Daily average | 78,857 |

The week's receipts comprised 411,000 bbls. of crude petroleum and 141,000 bbls. of fuel oil.

There were no receipts of foreign oil at Gulf Coast ports during the week.

### California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic Coast ports during the week ended January 7 (there were no receipts at Gulf Coast ports during the week) totaled 108,000 bbls. a daily average of 15,429 bbls., compared with 172,000 bbls., a daily average of 24,571 bbls. for the previous week and a daily average of 32,679 bbls. for the four weeks ended January 7.

The week's receipts comprised 83,000 bbls. of gasoline and 25,000 bbls. of kerosene, of which 78,000 bbls. came into New York and 30,000 bbls. into Baltimore.

At the close of the week, one cargo of California oil was reported afloat for the East, consisting of 92,500 bbls. of gasoline on the Sun Oil Co. tanker Northern Sun and 25,000 bbls. of kerosene on the same tanker, both consigned to Perth Amboy, N. J.

### NEW YORK GASOLINE TAX

The New York State Automobile Association is heading the campaign against the diversion of automobile taxes. The New York State Construction Council is backing a sales tax as a means of raising enough money for general purposes so that automobile and gasoline tax funds can all be used for keeping up the appropriations for new roads.

A resolution urging that there be no increase in New York State's gasoline tax for additional funds to meet the State deficit "unless and until" a general sales tax is adopted by the legislature for that purpose was approved at a meeting of directors of the New York State Automobile Association.

# TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

January 17, 1933

### Taxes

The gasoline quotations given in the following tables include the 1-cent Federal tax as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is generally available at 1.5 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 2 cents above the service station price for the regular grade.

### Standard Oil Co. (Indiana)

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Chicago | 14.1 | 14.1 | 4.0 | 10.0 |
| Decatur, Ill. | 16.6 | 16.6 | 4.0 | 10.1 |
| E. St. Louis | 17.9 | 14.9 | 4.0 | 9.3 |
| Joliet | 16.0 | 15.6 | 4.0 | 9.6 |
| Peoria | 16.6 | 15.6 | 4.0 | 10.1 |
| Quincy | 16.4 | 16.4 | 4.0 | 9.9 |
| Davenport, Ia. | 16.7 | 16.7 | 4.0 | 10.4 |
| Des Moines | 16.7 | 16.7 | 4.0 | 8.0 |
| Mason City | 16.7 | 16.7 | 4.0 | 9.0 |
| Sioux City | 16.3 | 16.3 | 4.0 | 10.0 |
| Duluth, Minn. | 17.7 | 17.7 | 4.0 | 11.0 |
| Mankato | 17.3 | 17.3 | 4.0 | 8.1 |
| Minneapolis | 15.4 | 15.4 | 4.0 | 11.0 |
| LaCrosse, Wis. | 18.4 | 18.4 | 5.0 | 11.1 |
| Green Bay | 17.8 | 17.8 | 5.0 | 10.5 |
| Milwaukee | 16.3 | 16.3 | 5.0 | 10.0 |
| Madison | 17.5 | 17.5 | 5.0 | 10.2 |
| Detroit, Mich. | 15.0 | 15.0 | 4.0 | 9.0 |
| Grand Rapids | 16.5 | 16.5 | 4.0 | 10.3 |
| Saginaw | 16.8 | 16.8 | 4.0 | 10.8 |
| Evansville, Ind. | 16.2 | 16.2 | 5.0 | †13.9 |
| Indianapolis | 17.4 | 17.4 | 5.0 | †14.1 |
| South Bend | 17.7 | 17.7 | 5.0 | †14.4 |
| Fargo, N. D. | 19.1 | 19.1 | 4.0 | 13.0 |
| Huron, S. D. | 18.5 | 18.5 | 5.0 | 11.8 |
| Sioux Falls | 18.0 | 18.0 | 5.0 | 10.0 |
| K. C., Mo.* | 14.1 | 14.1 | 4.0 | 8.7 |
| Springfield* | 16.0 | 16.0 | 4.0 | 9.0 |
| St. Louis | 11.5 | 11.0 | 4.0 | 9.4 |
| St. Joseph* | 13.0 | 9.9 | 4.0 | 7.5 |
| Wichita, Kans. | 14.9 | 14.9 | 4.0 | 7.0 |
| Bartlesville, Ok. | 14.5 | 17.0 | 5.0 | 8.0 |

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

†Includes 4-cent tax. Buyers of kerosene not used as motor fuel can secure refund of tax.

Effective November 4—New dump discount applicable on all grades of gasoline sold from tank wagon. Any tank wagon customer buying 25 gallons or more at one time will be given 1-cent discount per gallon off tank wagon price at time of delivery. Customers not under contract receive no other discount.

Effective January 1—Discounts on Q.D.A. on 500 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

### Stanolind Furnace Oil in Chicago

Effective November 1, 1932, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), 100 gallons or more, 7 cents; No. 2 (30-34 stw, zero), 150 gallons or more, 6½ cents; No. 3 (32-36 zero), 400 gallons or more 5.75 cents; No. 4 (13-16 zero), 400 gallons or more, 4.75 cents. Viscosity of No. 4, 90-115 at 100° F.

### Fuel Oils

### Chicago Oil Heat Institute Prices

Spot market prices on 350 gallons or over deliveries, and top prices on contracts, respectively: 28-40, 7 and 8 cents; 32-36 light, 6¾ and 7¾ cents; 32-36 dark, 6½ and 7½ cents; 28-30, 5¾ and 6¾ cents; 24-26, 5 and 6 cents; 18-22, 4¾ and 5¾ cents. On deliveries of less than 350 gallons the spot price is one-half cent higher.

### Southwestern District

MAGNOLIA PETROLEUM CO.

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Dallas, Tex. | 13.5 | 16.0 | 5.0 | 7.0 |
| Fort Worth | 13.5 | 16.0 | 5.0 | 7.0 |
| Houston | 13.5 | 16.0 | 5.0 | 8.0 |
| San Antonio | 13.5 | 16.0 | 5.0 | 8.0 |
| El Paso | 15.0 | 17.0 | 5.0 | 10.0 |
| Texarkana | *15.0 | 15.0 | 5.0 | †11.0 |
| Muskogee, Okla. | 13.5 | 15.0 | 5.0 | 8.0 |
| Okla. City | 13.5 | 16.0 | 5.0 | 8.0 |
| Tulsa | 13.5 | 16.0 | 5.0 | 8.0 |
| Ft. Smith, Ark. | *15.0 | 15.0 | 5.0 | †10.0 |
| Little Rock | 15.5 | 15.5 | 7.0 | †10.0 |

*Less 2½ cents to dealers. †Less 2 cents to dealers.

### Southern District

STANDARD OIL CO. (KENTUCKY)

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Atlanta, Ga. | 18.0 | 18.0 | 7.0 | 12.0 |
| Augusta | 19.0 | 19.0 | 7.0 | 11.0 |
| Macon | 19.0 | 19.0 | 7.0 | 12.0 |
| Savannah | 19.0 | 19.0 | 7.0 | 12.5 |
| Birm'ham, Ala. | 21.0 | 21.0 | 8.0 | 12.0 |
| Mobile | 20.0 | 20.0 | 8.0 | 10.0 |
| Montgomery | 22.0 | 22.0 | 8.0 | 14.0 |
| Jackson, Miss. | 18.0 | 18.0 | 7.0 | 12.0 |
| Vicksburg | 19.0 | 19.0 | 7.0 | 12.0 |
| Jack'ville, Fla. | 19.0 | 19.0 | 8.0 | 12.0 |
| Miami | 20.0 | 20.0 | 8.0 | 12.5 |
| Pensacola | 18.0 | 18.0 | 8.0 | 12.0 |
| Tampa | 17.0 | 17.0 | 8.0 | 13.0 |
| Lexington, Ky. | 18.5 | 18.5 | 6.0 | 11.5 |
| Covington | 18.0 | 18.0 | 6.0 | 11.5 |
| Louisville | 17.0 | 17.0 | 6.0 | 10.0 |
| Paducah | 19.0 | 19.0 | 6.0 | 10.0 |

A third grade "Kyso Green" is sold at a price generally 3 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent tax. To Mobile state tax add 1-cent city tax. Dealers receive discount of 3 cents off tank wagon price throughout territory.

### Rocky Mountain District

CONTINENTAL OIL CO.

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Denver, Colo. | 14.0 | 17.0 | 5.0 | 12.5 |
| Pueblo | 14.0 | 17.0 | 5.0 | 12.5 |
| Grand Jnctn. | 18.0 | 21.0 | 5.0 | 14.5 |
| Casper, Wyo. | 16.0 | 19.0 | 5.0 | 10.0 |
| Cheyenne | 14.0 | 17.0 | 5.0 | 11.5 |
| Butte, Mont. | 20.0 | 23.0 | 6.0 | 17.0 |
| Billings | 22.0 | 25.0 | 6.0 | 15.5 |
| Great Falls | 22.0 | 25.0 | 6.0 | 17.0 |
| Helena | 22.0 | 25.0 | 6.0 | 17.0 |
| Salt Lake, Utah | 17.0 | 20.0 | 5.0 | 16.0 |
| Albu'que, N. M. | 16.0 | 19.0 | *7.0 | 14.0 |
| Boise, Idaho | 20.5 | 23.5 | 6.0 | 15.0 |
| Twin Falls | 20.5 | 23.5 | 6.0 | 15.0 |

*One-cent city tax.

### Central South District

STANDARD OIL CO. (LOUISIANA)

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| N. Orleans, La. | 15.0 | 15.0 | *7.0 | †11.0 |
| Baton Rouge | 14.5 | 14.5 | 6.0 | †11.0 |
| Alexandria | 13.0 | 13.0 | 7.0 | †8.5 |
| Lafayette | 14.5 | 14.5 | 7.0 | †10.0 |
| Lake Charles | 14.5 | 14.5 | 7.0 | †11.0 |
| Shreveport | 13.5 | 13.5 | 6.0 | †11.0 |
| Knoxville, Tenn. | 18.0 | 18.0 | 8.0 | 10.0 |
| Memphis | 17.0 | 17.0 | 8.0 | 10.0 |
| Chattanooga | 16.5 | 16.5 | 8.0 | 12.0 |
| Nashville | 17.5 | 17.5 | 8.0 | 12.0 |
| Bristol | 18.0 | 18.0 | 8.0 | 13.0 |
| Lt. Rock, Ark. | 15.0 | 15.0 | 8.0 | 10.0 |

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

Two-cent discount off kerosene tank wagon price and 2½ cents off gasoline tank wagon price to dealer and commercial accounts

### Ohio

STANDARD OIL CO. (OHIO)*

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Ohio points | 13.5 | 14.0 | 5.0 | *12.0 |

*Two cents off on gasoline tank wagon to dealers and commercial accounts; 2½ cents off tank wagon on kerosene to dealers.

### Nebraska

STANDARD OIL CO. (NEBRASKA)

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Omaha | 17.25 | 18.25 | 5.0 | 9.0 |
| McCook | 18.75 | 19.0 | 5.0 | 11.75 |
| Norfolk | 17.75 | 18.75 | 5.0 | 10.75 |
| N. Platte | 17.0 | 17.0 | 5.0 | 9.0 |
| Scottsbluff | 18.0 | 18.0 | 5.0 | 11.25 |

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

### New York and Part of New England District

STANDARD OIL CO. (NEW YORK)*

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Albany, N. Y. | 14.0 | 15.0 | 4.0 | 9.0 |
| New York | 13.5 | 13.5 | 4.0 | 9.5 |
| Buffalo | 14.0 | 15.0 | 4.0 | 10.0 |
| Rochester | 14.5 | 15.5 | 4.0 | 10.0 |
| Syracuse | 13.0 | 14.0 | 4.0 | 10.5 |
| Boston, Mass. | 13.5 | 14.5 | 4.0 | 8.0 |
| Augusta, Me. | 18.5 | 19.5 | 5.0 | 9.0 |
| Manch'tr, N. H. | 16.5 | 17.5 | 5.0 | 8.0 |
| Burlington, Vt. | 17.0 | 18.0 | 5.0 | 8.5 |

*Discount schedule to commercial accounts are as follows: At service stations, 1 cent per gallon; tank wagon deliveries up to 20,000 gallons monthly, 2 cents per gallon; 20,000 to 100,000 gallons, 2½ cents; 100,000 to 300,000 gallons, 3 cents; 300,000 gallons and up, 3½ cents.

### Atlantic Coast District

STANDARD OIL CO. (NEW JERSEY)

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Atl'tic City, N.J. | 14.0 | 15.0 | 4.0 | 11.2 |
| Newark | 13.3 | 14.3 | 4.0 | 8.5 |
| Annapolis, Md. | 14.6 | 15.6 | 5.0 | 10.0 |
| Baltimore | 14.0 | 15.0 | 5.0 | 8.0 |
| Cumberland | 15.5 | 16.5 | 5.0 | 11.7 |
| Wash'g'n, D. C. | 11.2 | 12.2 | 3.0 | 10.0 |
| Danville, Va. | 16.7 | 17.7 | 6.0 | 11.9 |
| Norfolk | 15.1 | 16.1 | 6.0 | 10.3 |
| Petersburg | 16.2 | 17.2 | 6.0 | 11.4 |
| Richmond | 15.5 | 16.5 | 6.0 | 10.7 |
| Roanoke | 16.7 | 17.7 | 6.0 | 11.9 |
| Charls'n, W. Va. | 15.4 | 16.4 | 5.0 | 11.6 |
| Parkersburg | 14.0 | 15.0 | 5.0 | 10.2 |
| Wheeling | 15.0 | 16.0 | 5.0 | 11.2 |
| Charlotte, N. C. | 18.3 | 19.3 | 7.0 | 12.6 |
| Hickory | 18.5 | 19.5 | 7.0 | 12.7 |
| Mt. Airy | 18.6 | 19.6 | 7.0 | 12.8 |
| Raleigh | 18.1 | 19.1 | 7.0 | 12.3 |
| Salisbury | 18.4 | 19.4 | 7.0 | 12.6 |
| Charleston, S.C. | 16.1 | 17.1 | 7.0 | 10.3 |
| Columbia | 18.0 | 19.0 | 7.0 | 12.2 |
| Spartanburg | 18.3 | 19.3 | 7.0 | 12.5 |

Two cents per gallon discount off tank wagon price of gasoline to dealers except Washington, D. C., and Baltimore, Md., where discount is 3 cents. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey.

### Naphtha

| | Tank—Wagon | Car |
|---|---|---|
| Oleum spirits | 10.7 | 6.23 |
| V.M.&P. naphtha | 12.7 | 7.23 |
| Cleaners' naphtha | 15.2 | 9.23 |
| Stanisol | 15.2 | 9.23 |

Tank wagon prices f.o.b. Chicago January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

### Canada

IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Hamilton, Ont. | 24.0 | 27.0 | 6.0 | 16.5 |
| Toronto, Ont. | 24.0 | 27.0 | 6.0 | 16.0 |
| Brandon, Man. | 30.5 | 34.0 | 7.0 | 20.5 |
| Winnipeg, Man. | 27.5 | 31.0 | 7.0 | 17.5 |
| Regina, Sask. | 30.5 | 34.5 | 6.0 | 21.5 |
| Saskatoon, Sask. | 32.5 | 36.5 | 6.0 | 23.5 |
| Edmonton, Alta. | 30.5 | 34.0 | 5.0 | 22.5 |
| Calgary, Alta. | 27.0 | 30.5 | 5.0 | 19.0 |
| Vancouver, B.C. | 28.0 | 31.0 | 7.0 | 24.0 |
| Montreal, Que. | 25.5 | 26.5 | 6.0 | 15.0 |
| St. Johns, N.B. | 27.0 | 31.0 | 7.0 | 22.0 |
| Halifax, N.S. | 26.0 | 30.0 | 6.0 | 22.0 |

### Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

| | Gasoline: Tank truck† | Gasoline: Posted retail | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Fresno | 19.0 | 18.0 | 4.0 | 17.0 |
| San Francisco | 19.0 | 18.0 | 4.0 | 15.5 |
| Los Angeles | 17.5 | 16.5 | 4.0 | 15.5 |
| Reno, Nev. | 23.0 | 22.0 | 5.0 | 19.0 |
| Portland, Ore. | 16.4 | 15.4 | 5.0 | 16.5 |
| Seattle, Wash. | 17.4 | 16.4 | 6.0 | 16.5 |
| Tacoma | 17.4 | 16.4 | 6.0 | 16.5 |
| Spokane | 20.9 | 19.9 | 6.0 | 20.5 |
| Phoenix, Ariz. | 19.5 | 21.5 | 6.0 | 20.5 |

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

### Pennsylvania-Delaware and Part of New England

ATLANTIC REFINING CO.

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax | Kero. tank wagon |
|---|---|---|---|---|
| Pittsburgh, Pa. | 15.0 | 16.0 | 4.0 | 10.0 |
| Philadelphia | 14.0 | 15.0 | 4.0 | 10.0 |
| Scranton | 14.5 | 15.5 | 4.0 | 10.0 |
| Allentown | 14.5 | 15.5 | 4.0 | 10.0 |
| Altoona | 15.0 | 16.0 | 4.0 | 10.0 |
| Erie | 15.0 | 16.0 | 4.0 | 10.0 |
| Dover, Del. | 14.5 | 15.5 | 4.0 | 10.0 |
| Wilmington | 14.5 | 15.5 | 4.0 | 9.0 |
| Spring'd, Mass. | 14.5 | 15.5 | 4.0 | 8.0 |
| Worcester | 14.5 | 15.5 | 4.0 | 8.0 |
| Boston | 13.5 | 14.5 | 4.0 | 8.0 |
| Providence, R.I. | 12.5 | 13.5 | 3.0 | 8.0 |
| Hartford, Conn. | 13.5 | 14.5 | 3.0 | 8.0 |
| New Haven | 13.5 | 14.5 | 3.0 | 8.0 |

Discount schedule effective November 1, 1932. In Delaware and Pennsylvania, 2 cents off station price on purchases of 2,000 gallons or more per month, in remainder of territory 1 cent. Wholesale discount 2½ cents per gallon on monthly deliveries of 20,000 to 100,000 gallons, 3 cents on 100,000 to 300,000 and 3½ cents on more than 300,000 gallons.

### TANK WAGON CHANGES

(Regular grade Gasoline)

Standard Oil Co. of Kentucky, effective January 4, reduced gasoline tank wagon and service station prices 1 cent in Alabama, Georgia and Florida.

Standard Stations, Inc. (Standard Oil Co. of California), effective January 16, reduced gasoline tank wagon and service station prices 1 cent at Los Angeles.

### CRUDE OIL PRICE CHANGES

Danciger Oil & Refining Co., effective January 14 in Gray County, Texas Panhandle, posted as follows: 33 degrees and below, 36 cents, with 2 cents added for each degree upward to 40 degrees and over, at 50 cents.

Waggoner Pipe Line Co., effective January 13 in North Texas, posted the following prices: Below 36 degrees 48 cents, 36-36.9 degrees 50 cents, with 2 cents added for each degree upward to 40 degrees and over at 58 cents.

### MILFORD, DEL., ASKS SERVICE

MILFORD, Del., Jan. 14.—Construction of a gas distributing system for Milford is likely to be the result of a move initiated and being pressed by residents and business men. The city owns its electric light plant and fears it will affect the revenue derived from electric stoves. It has a population of 8,000 and a number of gas companies have failed to give service due to the fact the city and council would not issue a franchise.

A petition for the gas service was presented to the council by W. B. Rock and A. E. Nunn, residents of Milford. It was requested a franchise be issued to a gas company with the understanding that the work on the gas plant and distributing system be started on or before 90 days after the franchise was granted. Though gas is furnished to adjoining towns Milford has not enjoyed this service. Issuing a franchise will mean the expenditure in Milford from $85,000 to $100,000.

One of the gas companies is interested in building a butane plant; the council is planning to submit the matter to a referendum vote to decide whether the city shall vote a bond issue and build its own plant or issue a franchise to a gas company.

A committee has been appointed to investigate the merits of gas service and to make its recommendations to the council. P. J. Minck, manager of the Eastern Shore Gas Co., has opened an office in Milford and is selling tank gas to Milford and adjoining towns. The company is interested in securing the franchise. Robert Lewis, president, and Mr. Minck have appeared before the council.

### KENTUCKY LEASE PURCHASE

ASHLAND, Ky., Jan. 16.—Purchase of half a million acres of oil and gas leases in 21 eastern Kentucky counties by Dokenva Gas Corp., subsidiary of Henry L. Doherty Co., for $350,000, was announced here today. The opinion is current that the holdings will be developed to feed the Texas-Chicago pipe line.

Dubbs cracking isn't just a way to make more gasoline

It is *the* way to make the most gasoline of the highest anti-knock value from the least oil at lowest cost (royalty and all)

More Dubbs cracking means:

Less crude run to stills

Less straight-run gasoline to ruin the market

Less straight-run fuel oil to fill refinery storage

Less crude oil produced to drown the industry

More profits for everybody

Dubbs cracking always pays

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

# Stanolind Cuts Crude 25 Cents Per Bbl. in Kansas, Oklahoma and North Texas

Effective Wednesday, January 18, the Stanolind Crude Oil Purchasing Co. reduced its price of crude oil in Kansas, Oklahoma, North Texas and North Central Texas 25 cents per barrel on all grades, and while not posting a price in East Texas, says it would pay 50 cents per barrel for oil in that field effective January 18. The new schedule starts at 28 cents per barrel for oil below 29 gravity, with 2 cents added for each degree upward to 40 gravity and over, at 52 cents.

The advance notice of the price cut was received too late to be included in our gravity schedule of prices.

A statement by the company accompanying the announcement of the price change read as follows:

"Although this company does not post a crude price in East Texas, notice will be sent out that, effective the same date, we will pay 50 cents per barrel for crude purchased in that field.

"The reduction in our crude prices is forced by continued unsatisfactory conditions in movement of crude. Many purchasers are already openly buying below our prices. Much bootleg crude is moving secretly at still lower prices. Fundamentally these conditions prevail because, with consumption of gasoline declining, production continues in excess of demand. Cheap crude is made into cheap products that have a far-reaching effect in demoralizing the market for refined products. Gasoline prices have been chiseled by cut-price crude, by gasoline tax evasion, and by abnormally wide marginal contracts until they are lower today than they were when crude sold in 1931 at the lowest prices in many years. These conditions have developed in spite of the sincere efforts of the great majority of producers and purchasers to bring about sound conditions through proration. Unfortunately the small minority who care nothing for stability in the industry are able to exert a disproportionately large influence on the market. There appears to be no effective way to protect business against their piracy except to meet the prices they create. We have repeatedly stated that we cannot pay more for crude than other purchasers do or more than can be realized on the finished products. We have never paid less than our posted prices for crude, and prices of products made from our crude have been lowered only to meet competitive prices already established. If all purchasers, large and small, had followed the same practice, the industry would be in a more stable condition."

Effective January 16 the Rock Island Refining Co. posted in southern Oklahoma as follows: Below 25 gravity, 35 cents, with 2 cents added for each degree upward to 40 gravity and over at 67 cents.

Effective January 17 the Wickett Pipe Line Co. posted 35 cents per barrel for crude oil in Ward County, Texas, 15 cents below the prevailing West Texas price.

The Panhandle Oil & Refining Co., effective January 17, posted as follows in North Texas: Below 36 gravity 57 cents, with 2 cents added for each degree upward to 40 gravity and above, at 65 cents. The prices are all f.o.b. refinery, which makes the price at the well about 15 cents lower than the posted price given.

## Late Fields

### SOUTHWEST TEXAS

SAN ANTONIO, Tex., Jan. 17.—Smith & Capps' No. 1 Peters in Survey No. 178, Duval County, 7 miles southwest of the Sarnosa Pool, southernmost of the Government Wells group, came in for 20,000,000 feet of gas with 6⅝-inch casing set at 2,420 feet and sand at 2,431-51 feet, the same as producing in the Government Wells pools. The well is directly in the trend of production along the Reynosa escarpment. A new location is being made 600 to 800 feet east and should be down dip enough to get away from gas and get oil production.

Stanley Smith's No. 1 Pena in Survey No. 79, 7 miles east of the North Government Wells Pool, on drill stem test at 1,915-31 feet showed 75 pounds gas pressure at end of one minute with valve open. Shut in, it showed 225 pounds at end of two minutes. It is in the Cole sand and will likely drill to Government Wells sand. It looks like opening of something new on folding parallel to Government Wells group.

Carroll Brown's No. 1 Beckley in northwestern Live Oak County, which cored sand at 1,056-64 feet showing oil, is setting casing without making a drill stem test. It is a wildcat, 6 miles northeast of Jacob Pool in McMullen County.

Marts and Beavens' No. 1 Rivers in northern Bastrop cored dry Serpentine at 1,820 feet.

### KANSAS

The seventh well to be completed in the Hunton lime, in the Mabee Pool, in McPherson County, flowed 76 bbls. of oil an hour for four hours. The well is Mid-Kansas Oil & Gas Co.'s No. 1 Hamm, in Section 33-21-3w.

The first dry hole in the Hollow Pool, in Harvey County, is Phillips Petroleum Co.'s No. 2 Warkentine, SW cor. NE SW, Section 20-22-3w, and is also the first well to be drilled to the deep formations in the pool. The total depth of the well on the last reports was 3,520 feet. Thus far no oil has been found in the formations below the Hunton lime, in tests where the Hunton lime has been productive in Kansas.

Gled Oil Co., Shell Petroleum Corp. and Skelly Oil Co.'s No. 1 well, in the NE cor. NW, Section 2-24-4w, in eastern Reno County, found Siliceous lime at 3,835-44 feet, where it found a hole full of water. It was plugged back to the chat formation at 3,292-98 feet, where it has been making around 185 bbls. of oil a day.

Sinclair Prairie Oil Co.'s No. 1 Malir, C NE NE, Section 27-15-8w, a wildcat in Ellsworth County, found the Siliceous lime at 3,082-3,115 feet, which tested dry. The company began surrendering approximately 13,000 acres of leases in the vicinity after abandoning the well.

### OKLAHOMA

Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Kolb, C NE NW Section 33-20-2w, Noble County wildcat, found the top of the Wilcox sand at 4,978 feet, where oil started filling up in the hole. On the last report it was drilling in Wilcox sand at 4,989 feet, and the oil had risen 2,300 feet in the hole in four hours. This is the third well in the new Wentz Pool to find oil production in the Wilcox sand and it extends the producing area of the field to 3½ miles north and south. It is the most southerly of the trio of wells.

The most northerly well to reach the Wilcox sand is the Lucien Consolidated Community's No. 1 Jerome, C SW SW Section 8-20-2w, in the Wentz Pool, in Noble County. This well made 674 bbls. of oil in nine hours from the Wilcox sand at 5,175-5,221 feet. It was drilled 2 feet deeper on January 16, and the deepening indicated that it had increased the flow of gas to approximately 5,500,000 feet a day, and the owners were preparing to make another production test the following day.

These two wells are approximately 3½ miles apart and indicate that all the territory between is proven for oil production from the Wilcox sand. The discovery well is located between the two wells in the SE cor. of NW Section 17-20-2w, and made on its initial production test 1,817 bbls. in 24 hours.

### LOUISIANA

SHREVEPORT, La., Jan. 17.—Gibson Johnson's No. 2 Frost Johnson Lumber Co., Section 15-9-13, Converse area, Sabine Parish, responding to acid treatment came in flowing 21 bbls. an hour from 1,901 feet following a dry test last week at the same depth and a previous dry test at around 1,600 feet when bailed and a previous acid test that failed on account of a break in tubing. Bottom is in broken sandy marl and chalk and the result of the test means much for this prospective new North Louisiana pool.

# Ratable Takings From a Common Source in Field Is Suggested as a Remedy

By MARVIN LEE

Consulting Geologist, Wichita, Kans.*

The restoration of legal rights to all producers, royalty owners and purchasers through the legal production and marketing of oil can be quickly accomplished by changing the old method of inequitable taking of oil from each well to the equitable method of selling oil from the field.

Since common rights of landowners and producers are given legal recognition in common source of supply, why not make these rights obtainable by permitting them to share their sales daily, fairly, and equitably? To stop the theft of oil and to insure selling oil requires that ratable taking must also mean ratable marketing.

Nearly all oil men admit the equity of producers to share the reservoir energy of an oil field and to recover their share of the oil under their leases.

Legislatures and courts have made attempts to correct injustice in cases where the opinions of men differ as to property rights. The theory of ratable taking is good, but legislation to effectuate it has been influenced by every political influence usable by men for selfish reasons. It has not had a fair trial.

The administration of the laws on ratable taking has also been influenced by selfish actions as well as being affected by old oil field traditions and practices. The vicious misuse of some pipe lines to run oil illegally produced is to well known to need comment.

### Illegal Production and Prices

With prices below the point of profit, alleged to be caused by the illegal production of crude oil and its refined products, nothing effective has been done in two years to stop this. Instead of meeting conditions squarely, heads of large companies rush about frantically from state to state with high priced attorneys, consulting commissions, legislators, and other officials in an effort to do something that does not work for the good of the industry or public welfare. Dividends are being squandered in setting up political departments, in taking temporary advantages of conditions that react to greater destruction of goodwill and future profits of anxious stockholders.

The evils of illegal production of oil are too well known to require discussion—the remedy is a return to common business honesty. The prevention of illegal production of oil requires the co-operation of purchasing companies and the present regulatory bodies in authority in the oil states through the adoption of ratable marketing.

### Essential Factors Involved

The following suggestions cover the essential fundamental factors involved that are necessary to make it possible for this ratable marketing program to cure many evils: Details of each field operation and law of each state must be considered.

1. All oil to be gauged on the leases as under present practices, but instead of being delivered direct into pipe lines it shall be run to a field marketing storage and regauged and delivered to purchasers. This will check and double-check the field's production.

2. A purchaser shall be any person or company presenting satisfactory guarantee of financial ability to pay for its nominations under regular monthly payment plan prevailing, and having the facilities or contracts for facilities to remove oil from the field marketing tanks without waste or undue delay.

3. A purchaser's nominations shall constitute a contract to buy daily their stated requirements at the posted price for the gravity of oil produced and marketed from each separate common source of supply.

4. Producers to be paid for the oil as per their allotment per well according to the umpire's report or schedule.

5. Overages run from leases to marketing storage shall not give the producer a market advantage above the allotment, which will end attempts at overproduction.

6. Delay in filling purchaser's nominations shall permit the umpire to readjust field percentages to supply purchaser's nominations promptly and offending producers should be penalized by denying accumulated shortages to be marketed on the monthly allotment.

7. Payment could be made through a bank or other agency to insure prompt and regular settlement to all producers and royalty owners for their allotments marketed.

### Reduce Duplication

This plan, if it were in effect at the beginning of a field, would reduce most duplication of gathering systems. It would eliminate gathering charges for the pipe line company and restrict drilling because each producer would realize he had an assured market for his allowable.

In fields that are already developed, it would be possible to readjust the marketing system and pay for or rent lines and tankage already installed at far less cost than caused by the present system permitting illegal running of oil by a few and accumulating losses to other producers not able to market their oil ratably.

This suggestion is offered with the expectancy that it will meet with violent opposition from many sources, but we should consider whether or not we are satisfied with present conditions and do not wish improvement. Improvement can be made only through co-operation. With co-operation it can be made without delay. Stockholders are crying for action, but executives have realized the impossibility of solving these problems through the action of any individual company.

At present we are engaged in a period of uncertainty as to whether we are going forward or backward. The rising tide of propaganda for crude price cuts spreads as the present oil storage level lowers. The oil industry has some of the most resourceful and intelligent men in the business world today, and the old adage that, "Where there is a will, there is a way," should now be considered. Shall the hurtful practices of the oil business be continued under the excuse of, "Our competitors are doing it, therefore, we must," or will the executives of the oil companies act in time to save their stockholders' investments?

*This is Mr. Lee's personal statement and does not reflect official opinion either as executive vice president of the Independent Petroleum Association of America or as chairman of the Oil Advisory Committee to the Public Service Commission of the State of Kansas.

# NEWS FOR PETROLEUM REFINERS

## Construction Work Planned or Under Way at Refineries

Reports from widely scattered refining areas over the past week showed considerable refinery improvement work under construction or planned for the near future.

The Shell Petroleum Corp. started the installation of a second pressure distillate stabilizer at its Houston, Tex., refinery. The new unit will increase the capacity to around 15,000 bbls. daily. The construction program will involve the installation of a new 1,000,000-foot compressor. Reports from Hammond, Ind., where the Shell corporation has a refinery, state that a $600,000 improvement program is under way.

The Bradford Oil Refining Co. is installing a new atmospheric distillation unit of 1,500 bbls. daily capacity at its Bradford, Pa., refinery. The Bradford refinery operates exclusively on Pennsylvania Grade crude oil.

The Globe Oil & Refining Co. is completing the installation of its new refinery at McPherson, Kans., and expects to have it in operation by February 15. Last week towers were installed, one of which was 93½ feet tall.

The Middlesex Refining Co., with headquarters in New York City, has announced plans to reopen its refinery at New Brunswick, N. J., in the spring. The refinery, which has been shut down for some time, has a crude oil capacity of 5,000 bbls. daily with a small cracking unit. The refinery is to be remodeled before operation starts.

W. H. Daugherty & Son Refining Co. have plans to install a pipe still soon at its Petrolia, Pa., refinery. The plant at present has skimming facilities and a lubricating oil plant.

The Col-Tex Refining Co. (Anderson-Prichard) is replacing an old pipe still installation at its Colorado, Tex., refinery with a modern tubular heater. The new unit will have a capacity of 8,000 bbls. daily.

The Wasatch Oil Refining Co., which last year built a refinery at Woods Cross, Utah (near Salt Lake City), with a crude oil capacity of 1,000 bbls. daily and a cracking capacity of 600 bbls., is planning the construction of a gasoline absorption plant and stabilizer.

The Hancock Oil Co. of California has plans to increase the crude oil topping capacity of its Long Beach, Calif., refinery from 12,000 to 15,000 bbls. daily. The refinery has cracking facilities of the Hancock 3 Phase type with a total capacity of 2,500 bbls. daily.

The Caminol Co., Ltd., with headquarters in Los Angeles, Calif., is completing plans for the installation of cracking equipment at its Santa Fe Springs, Calif., refinery. The company also has a refinery at Hanford, Calif.

A refinery to cost $100,000 is to be erected by the Hi-Way Oil Co. of British Columbia at South Westminster, across the Fraser River from New Westminster, according to the industrial department of the Canadian National Railways.

The first of the large refineries being built by leading oil companies has been opened at Petite Couronne, near Rouen, by the Jupiter company, a subsidiary of Royal Dutch-Shell. The plant covers 200 acres and has capacity of 600,000 tons of crude oil a year. The Jupiter company opened a refinery in November at Pauillac, near Bordeaux, with a capacity of 250,000 tons of crude a year.

The Anglo-Persian Oil Co. refinery at Martigues, near Marseilles, and the Standard Oil Co. of New Jersey refinery near Rouen are to be completed soon.

## Mid-Continent Markets New Lubricated Motor Fuel as "Successor to Gasoline"

At a banquet attended by over 200 executives and representatives of sales and manufacturing departments, the Mid-Continent Petroleum Corp., last week introduced its new lubricated motor fuel, "D-X," a "successor to gasoline." Starting with the southern division, the new motor fuel is to be introduced throughout the Mid-Continent's marketing territory. It is being sold at the regular gasoline price and takes the place of the former Diamond regular grade.

F. B. Kountz, vice president of the Mid-Continent corporation, and for several years in charge of operations at its large West Tulsa refinery, at the banquet, explained the scientific research and development work which preceded the introduction of this new motor fuel and, R. W. McDowell, vice president in charge of marketing outlined the marketing plans in the sale of the new product. It was stated that approximately $1,650,000 has been spent by the corporation in installing the necessary facilities for the manufacture of the gasoline and completing marketing plans.

"It has been scientifically proven that 60 to 70 per cent of the normal internal combustion wear in a motor takes place from the starting up period to the time that the crankcase lubricant reaches the upper cylinder walls, and this only occurs after several thousand revolutions of the motor," Mr. Kountz said at the Tulsa banquet. "The pouring of a 'canned' lubricant into a gasoline to reach these upper cylinder parts quicker has been proved impractical, unsatisfactory and unsafe. The big problem which has always confronted refiners has been how to mix the lubricant and gasoline so that positive lubrication would be assured and sticking and clogging forming features would be eliminated.

"Diamond's D-X is called 'Successor to Gasoline' because the company under strict laboratory control has been able to fuse the lubricating element with a primarily improved motor fuel, which in addition to furnishing needed protection to valves, pistons, rings and upper cylinder walls through the lubricating element is an all petroleum product free from gum, sulphur and all injurious impurities. D-X has all the properties of the best gasoline, including highest test, quickest starting and highest antiknock.

The lubricating element in D-X is claimed by Mid-Continent's technologists to be carbonless, and in fact tends to prevent the formation of carbon deposits and softens old carbon deposits present in old motors, so that carbon is actually removed through exhaust.

The Mid-Continent corporation is completing the installation of additional cracking equipment at its Tulsa refinery which will be used in the production of the new motor fuel. The cracking equipment incorporates operating principles perfected at the Mid-Continent refinery. The cracking chamber to the latest unit now being completed weighs 423,000 pounds and was shipped from the A. O. Smith plant at Milwaukee, Wis., by special train.

The still is 68 feet long with an inside diameter of 10 feet 7 inches and the walls are 3½ inches thick. In addition, there is a bubble tower weighing 390,000 pounds. Both vessels were electrically welded and electrically heated.

The furnace of the still was built by the Foster Wheeler Corp., of New York, and compares in size with a 12-family apartment house. It is 72 feet long and 52 feet wide and 6 miles of pipe are in the still connections and heating system. The oil is pumped to the unit with two 750-horsepower engines. Nearly 1,000 safety devices are on the new still.

### EAST TEXAS ACTIVITIES

FORT WORTH, Tex., Jan. 14.—R. J. and M. H. McMurray are starting excavation for a 1,000-bbl. skimming plant to be located 3 miles north of Arp on the I.&G.N. Railroad, Smith County. Four miles of 6-inch line will be laid to connect the plant with wells on the western side of Rusk and east edge of Smith County. The Wyatt Metal Works of Dallas, Tex., will erect an 86-foot tower, and furnish run down tanks and other equipment for the plant.

Frank Trawrick and others are building a 200-bbl. skimming plant in Gladewater, to be known as the Dutch Rose Refining Co. Trucks will transport oil to the plant, and gasoline will be shipped out the same way as the plant is not located on a railroad. Mr. Trawrick was formerly associated with the Gregg Refining Co. at Gladewater.

The Ball Oil Corp. and Como Oil Co. are planning on erecting a skimming plant near Turnertown in the Joiner area of Rusk County.

The Unit Refining Co. (formerly known as the Guillory Refining Co.) located at Kilgore, Tex., was destroyed by fire the past week. The fire was believed to have originated in a defective still. Daily capacity of the plant was 200 bbls., and it was announced by officials the plant was to be rebuilt at an early date.

With the completion of these plants there will be over 30 refineries in the East Texas Field.

### REGISTER ESSO TRADE-MARK

NEW YORK, Jan. 16.—With announcement of the registration of Esso, Inc., under the laws of Wisconsin, authorizing it to carry on the business of selling petroleum products throughout that State, it was learned here that the Standard Oil Co. of New Jersey has taken steps to register its name in all states in the union, where the company is not already engaged in marketing operations.

Ostensibly, this registration is being carried on to permit Esso, Inc., specialties subsidiary of the Standard Oil Co. (New Jersey) to market its "Esso Handy Oil" and other specialties on a national scale, but it is pointed out that these registrations will protect the Jersey company's brand name for its leading grade of gasoline in each state as well, and lay the groundwork for what may ultimately develop into a national marketing organization for gasoline, lub oils, and other refined products, now distributed generally by Standard Oil Co. of New Jersey throughout the East and in some parts of the Southwest, through subsidiaries.

### SOVIET OIL SCHEME REJECTED

CHATHAM, Ontario, Jan. 14.—The proposal of a Winnipeg syndicate headed by J. H. McDonald and G. G. Serkeau involving the exchange of Canadian cattle and hides for Russian gasoline and coal has been formally rejected by the federal government at Ottawa.

## Mexican Petroleum Company to Enlarge Baltimore Refinery

BALTIMORE, Md., Jan. 14.—The Mexican Petroleum Co. of this city has taken out building permits to increase the capacity and improve the operation of its local refinery. It was stated that over $500,000 would be spent in improvements.

The new facilities includes crude oil topping and cracking equipment, pump houses, treating plant and other buildings. A small cove is to be filled in, to make from 25 to 30 acres of new ground available on which fourteen 80,000-bbl. tanks will be constructed.

The Mexican company refinery in the past has been operated as an asphalt plant with a crude oil capacity of 8,000 bbls. daily. With the new equipment the plant will be in a position to furnish high antiknock gasoline and other products for distribution in this territory. The company is a subsidiary of the Pan American Petroleum & Transport Co. (Standard Oil Co. of Indiana).

## Charge Companies in Ohio Violate Antitrust Laws

CINCINNATI, Ohio, Jan. 14.—Nine major gasoline companies were charged with violation of the antitrust act in a suit on file Saturday in Federal Court here.

The suit, brought by a group of independent dealers and filling station operators of this vicinity, claims the big companies have conspired to reduce the retail price of gasoline below the wholesale price to force the plaintiffs, and independent refining and producing concerns supplying them, out of business.

Since December 15, the complaint says, the retail price of gasoline has been cut 4 cents in comparison to a drop of only 1 cent in the wholesale price. Some grades of gasoline, it is claimed, are retailing at 2 cents under the wholesale price.

The court was asked to issue an injunction restraining the producers from acting individually or together to fix the retail prices of the fuel without regard to the wholesale cost.

Defendants in the suit are the Cities Service Co., Gulf Refining Co., Fleetwing Corp., Pure Oil Co., Refiners, Inc., Shell Union Oil Co., Consolidated Oil Corp., Standard Oil Co. of Ohio and The Texas Company.

### BOOKLET ON USE OF ASPHALT

The Asphalt Institute, 801 Second Avenue, New York, N. Y., has issued two booklets which are available to those who are interested in asphalt road construction. The institute has completed its second manual on asphalt road construction entitled "Surface Treatment Types." The first manual previously issued was entitled "Road-Mix Types." Another pamphlet just released is entitled "Specifications for Liquid Asphaltic Road Materials."

### SINCLAIR BUYS PIPE LINE

The Sinclair Refining Co., operating a large oil refinery in Wellsville, N. Y., has become sole owner of the Union Pipe Line Co., through purchase of stock. The Union Pipe Line Co. operates an extensive network of crude gathering lines throughout the Allegany oil field of southwestern New York, with four pump stations, and supplies crude to the Wellsville plant of the Sinclair company.

# REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

**EXCLUSIVE OF TAXES**

The following quotations are exclusive of the Federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils, which became effective June 21, 1932.

## Refinery Gasolines

| OKLAHOMA (Group 3)— | Jan. 17 | | Jan. 10 | |
|---|---|---|---|---|
| *U. S. Motor grades: | | | | |
| Regular | .02⅝ | .02⅞ | .02⅝ | .03 |
| Premium | .02⅞ | .03⅛ | .02⅞ | .03⅛ |
| Third grade | .02¼ | .02½ | .02¼ | .02⅝ |
| 60-62 400 grades: | | | | |
| Regular | .02¾ | .03 | .02⅞ | .03⅛ |
| Premium | .03 | .03⅛ | .03⅛ | .03½ |
| Third grade | .02⅝ | .02¾ | .02½ | .03 |
| 64-66 390 | .02⅝ | .03 | .02¾ | .03⅛ |
| 64-66 375 | .03 | .03⅛ | .03⅛ | .03½ |
| 68-70 350 | .03⅛ | .03½ | .03⅝ | .03¾ |
| NORTH TEXAS— | | | | |
| U. S. Motor grades: | | | | |
| Regular | .02½ | .02⅞ | .02½ | .03 |
| Premium | .02¾ | .03 | .02¾ | .03⅛ |
| Third grade | .02½ | .02½ | .02½ | .02½ |
| 60-62 400 | .02½ | .02¾ | .02¼ | .02¾ |
| 64-66 390 | .02½ | .02¾ | .02½ | .03 |
| 64-66 375 | .02¾ | .03 | .02⅞ | .03⅛ |
| 64-66 360 | .03 | .03⅛ | .03⅛ | .03½ |
| †NORTH LOUISIANA— | | | | |
| U. S. Motor grades: | | | | |
| Regular | .03⅜ | | .03⅜ | .03½ |
| Premium | .03⅝ | | .03⅝ | .04 |
| Third grade | .03 | | .03 | |
| 60-62 400 | .03¼ | .03¾ | .03¼ | .03¾ |
| †ARKANSAS— | | | | |
| U. S. Motor grades: | | | | |
| Regular | .03⅜ | | .03⅜ | |
| Premium | .03⅝ | | .03⅝ | |
| Third grade | .03 | | .03 | |
| CHICAGO (Based on Oklahoma Group 3)— | | | | |
| U. S. Motor grades: | | | | |
| Regular | .02½ | .02¾ | .02⅝ | .02⅞ |
| Premium | .02¾ | .03¼ | .03 | .03⅜ |
| Third grade | .02½ | .02½ | .02⅜ | .02½ |
| 60-62 400 | .02⅝ | .02⅝ | .02½ | .02⅞ |
| 64-66 375 | .03 | .03¼ | .03¼ | .03½ |
| 68-70 360 | .03⅜ | .03⅝ | .03½ | .04 |
| Aviation fighting grade | .03⅞ | .04⅛ | .04 | .04¼ |

*Octane Ratings—The following octane ratings apply to the three grades of U. S. Motor gasoline: Regular, 57-65 octane numbers; premium, above 65 octane number; third grade, below 57 octane number.

†For Arkansas, Louisiana and Mississippi delivery.

| PENNSYLVANIA (inland refineries)— | | | | |
|---|---|---|---|---|
| U. S. Motor | .05¼ | .05½ | .05½ | .05⅝ |
| 60-62 400 | .05½ | .05⅝ | .05⅝ | .06 |
| 64-66 375 | .06 | .06¼ | .06 | .06¼ |
| 68-70 350 | .06¼ | .06¼ | .06¼ | .06¼ |
| CALIFORNIA—(domestic movement only)— | | | | |
| 54-58 U. S. Motor | .05⅝ | .06½ | .05⅝ | .06½ |
| 58-60 400 | .06½ | .07 | .06½ | .07 |
| EAST COAST— | | | | |
| U. S. Motor, below 65 octane: | | | | |
| New York (Bayonne) | .05½ | | .05¾ | .06 |
| Boston | .05½ | | .06 | |
| Baltimore, Md. | .05½ | | .05½ | .06¼ |
| Charleston, S. C. | .05½ | | .06 | |
| U. S. Motor, 65 octane and above: | | | | |
| New York (Bayonne) | .05¾ | .06 | .06 | .06¼ |
| Boston | .05¾ | | .06¼ | |
| Baltimore, Md. | .05¾ | | .06 | .06¼ |
| Charleston, S. C. | .05¾ | | .06¼ | |
| GULF COAST (domestic)— | | | | |
| U. S. Motor, 65 octane and above | .04½ | .04⅝ | .04¾ | .05¼ |
| U. S. Motor, below 65 octane number | .04 | | .03¾ | .04¼ |

## Naphthas

| OKLAHOMA (Group 3)— | Jan. 17 | | Jan. 10 | |
|---|---|---|---|---|
| 50-52 450 (blending) | .02¼ | .02½ | .02⅝ | .02⅞ |
| PENNSYLVANIA (inland refineries)— | | | | |
| 50-54 430-450 (blending) | .05 | .05¼ | .05¼ | .05½ |
| ARKANSAS— | | | | |
| 48-50 450 (blending) | .02⅞ | .03 | .03 | .03¼ |
| CHICAGO (Based on Oklahoma Group 3)— | | | | |
| 50-52 (blending) | .02½ | | .02½ | |
| Cleaners' naphtha, 50-58 gr., 200 i.b.p.-320 e.p. | .05⅜ | .06 | .06 | .06¼ |
| Lacquer diluent, 180 i.b.p.-250 e.p. | .07 | .07¼ | .07¼ | .07⅝ |
| Lacquer diluent, 140 i.b.p.-200 e.p. | .08½ | | .08½ | |
| Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p. | .05¾ | .06 | .05½ | .06¼ |
| Stoddard solvent, 300 i.b.p.-410 e.p., over 100° flash | .05¼ | .05½ | .05½ | .05¾ |
| Pet. thinner, 290, 300 i.b.p.-415 e.p., over 83° flash | .04½ | .04¾ | .04¾ | .05 |
| V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p. | .05½ | .05¾ | .05¾ | .06 |
| Petroleum spirits | .04¼ | .04½ | .04¼ | .04½ |

## Natural Gasolines

| OKLAHOMA (Group 3)— | Jan. 17 | | Jan. 10 | |
|---|---|---|---|---|
| Grade 18-55 | .02½ | .02⅝ | .02⅝ | .02¾ |
| Grade 26-70 | .02½ | | .02¼ | |
| Grade 30-70 | .02⅛ | | .02⅛ | |
| *Low vapor pressure grades: | | | | |
| 15 lb. v.p. (max.) | .02¾ | .02⅞ | .02⅞ | .03 |
| 11 lb. v.p. (max.) | .03 | .03¼ | .03¼ | |
| NORTH TEXAS— | | | | |
| Grade 18-55 | .02½ | .02⅝ | .02½ | .02⅝ |
| Grade 26-70 | .02⅛ | | .02⅛ | |
| Grade 30-70 | .02⅛ | | .02 | |
| *Low vapor pressure grades: | | | | |
| 15 lb. v.p. (max.) | .02¾ | | .02¾ | |
| 11 lb. v.p. (max.) | .03 | | .03¼ | |
| NORTH LOUISIANA— | | | | |
| Grade 26-70 | .02½ | | .02¾ | |
| CALIFORNIA— | | | | |
| 75-78 375 | .04¾ | .05¼ | .04¾ | .05¼ |

## Kerosenes

(All kerosenes water white)

| OKLAHOMA (Group 3)— | Jan. 17 | | Jan. 10 | |
|---|---|---|---|---|
| 41-43 | .03½ | .03½ | .03⅜ | .03½ |
| 42-44 | .03¼ | .03⅝ | .03¼ | .03⅝ |
| NORTH TEXAS— | | | | |
| 40-41 | .03 | | .03 | |
| 41-43 | .03 | .03¼ | .03 | .03¼ |
| †NORTH LOUISIANA— | | | | |
| 41-43 | .03¾ | | .03⅝ | |
| 42-44 | .04 | | .04 | |
| †ARKANSAS— | | | | |
| 41-43 | .03¾ | | .03¾ | |
| PENNSYLVANIA (inland refineries)— | | | | |
| 45 | .04⅝ | .04⅞ | .04⅝ | .04⅞ |
| 46 | .04⅞ | .05 | .04⅞ | .05 |
| 47 | .04⅞ | .05⅛ | .04⅞ | .05⅛ |
| CHICAGO (Based on Group 3)— | | | | |
| 41-43 | .03½ | .03¼ | .03½ | .03⅝ |
| 42-44 | .03¼ | .03⅜ | .03¼ | .03½ |
| *CALIFORNIA— | | | | |
| 38-40 high burning test | .04 | .04¾ | .04 | .04¾ |
| NEW YORK (Bayonne, N. J.)— | | | | |
| 41-43 | .05½ | .06 | .05½ | .06 |
| GULF COAST (domestic)— | | | | |
| 41-43 water white | .04½ | | .04½ | |

*For Pacific Coast consumption.

†For Arkansas, Louisiana and Mississippi delivery.

## Furnace Oils and Tractor Fuels

| OKLAHOMA (Group 3)— | Jan. 17 | | Jan. 10 | |
|---|---|---|---|---|
| 32-36 straw | .02⅞ | .03⅛ | .02⅞ | .03⅛ |
| 36-38 straw | .02⅞ | .03 | .03 | .03⅛ |
| 38-40 straw | .02⅞ | .03 | .03 | .03⅛ |
| 39-41 prime | .02⅛ | .03 | .03 | .03¼ |
| NORTH TEXAS— | | | | |
| 38-40 straw | .02¾ | .03 | .03 | .03¼ |
| †NORTH LOUISIANA— | | | | |
| 36-40 | .03¾ | | .03¾ | |
| †ARKANSAS— | | | | |
| 32-36 | .03¼ | .03½ | .03½ | .03¾ |
| CHICAGO (Based on Group 3)— | | | | |
| 32-36 straw | .02⅞ | .03 | .03 | .03⅛ |
| 38-40 straw | .03 | .03¼ | .03⅛ | .03¼ |
| PENNSYLVANIA (inland refineries)— | | | | |
| 40-41 prime white | .03¾ | .04 | .03¾ | .04 |
| NEW YORK (Bayonne, N. J.)— | | | | |
| 32-36 | .04 | | .04 | |
| 36-40 | .05 | | .05 | |
| 21 (industrial) | .03½ | | .03½ | |

Above prices are for distillate oils of zero cold test under 190° F. flash and good odor.

†For Arkansas, Louisiana and Mississippi delivery.

## Gas Oil, Diesel Oil and Fuel Oil

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

| OKLAHOMA (Group 3)— | Jan. 17 | | Jan. 10 | |
|---|---|---|---|---|
| 32-36 (G.O.) cracking stock | .01¾ | .02 | .01¾ | .02 |
| U.G.I. (G.O.) | .01¾ | .02 | .01⅞ | .02 |
| 32-36 zero to 15 (G.O.) high flash | .02½ | .02¾ | .02⅝ | .02¾ |
| 28-30, zero to 10 | .95 | 1.05 | .95 | 1.05 |
| 26-30, zero to 10 | .80 | .90 | .80 | .90 |
| 24-26 | .60 | .65 | .60 | .65 |
| 20-22 | .50 | .55 | .50 | .55 |
| Below 16 | .40 | .45 | .40 | .45 |
| NORTH TEXAS— | | | | |
| 32-36 (G.O.) industrial | .01¾ | .02 | .01¾ | .02 |
| 22-26 | .45 | .50 | .45 | .50 |
| Below 20 | .40 | .45 | .40 | .45 |
| NORTH LOUISIANA— | | | | |
| 32-36 (G.O.) zero | .03 | | .03 | |
| 14-16 | .45 | | .45 | |
| †ARKANSAS— | | | | |
| 30-32 (G.O.) zero high flash | .03 | | .03 | |
| 14-16 | .45 | | .45 | |
| CHICAGO (Based on Group 3)— | | | | |
| 32-36 (G.O.) industrial | .02 | .02⅛ | .02 | .02¼ |
| 28-30 (zero) | 1.05 | 1.10 | 1.05 | 1.10 |
| 22-26 | .65 | .70 | .70 | .75 |
| 18-22 | .55 | .60 | .60 | .65 |
| Below 18 | .50 | .55 | .55 | .60 |
| PENNSYLVANIA (inland refineries)— | | | | |
| 36-40 | .03¼ | .03½ | .03¼ | .03½ |

Note: Fuel oils of more than 40 cold test generally 5 to 10 cents per barrel less in all areas than shown in above tables.

†For Arkansas, Louisiana and Mississippi delivery.

| CALIFORNIA— | | | | |
|---|---|---|---|---|
| 30-34 (G.O.) per bbl. | .90 | 1.00 | .90 | 1.00 |
| 27 plus Diesel | .90 | 1.00 | .90 | 1.00 |
| 15-19 bunker (at tidewater) | .55 | .65 | .55 | .65 |
| 15-19 (cargo lots) | .50 | .60 | .50 | .60 |
| 15-19 (tank cars) | .35 | .50 | .35 | .50 |
| GULF COAST— | | | | |
| 28-30 (G.O.) | .03½ | | .03½ | .03⅝ |
| 28-30 Diesel | 1.50 | 1.65 | 1.50 | 1.65 |
| Bunker C (bulk cargoes) | .50 | | .50 | |
| Bunker C (bunkers) | .60 | | .60 | |
| NEW YORK (Bayonne, N. J.)— | | | | |
| 28 plus (G.O.) | .03¾ | .04 | .03¾ | .04 |
| *28-30 Diesel | 1.65 | | 1.65 | |
| 26-30 Diesel (tank cars) | .04 | | .04 | |
| †Bunker C | .75 | | .75 | |

*Lighterage 6½ cents per barrel.

†Lighterage 5 cents per barrel.

## Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

| | | |
|---|---|---|
| Breeze (screenings) | 5.50 | 5.50 |
| Stills runs | 6.50 | 6.50 |
| Lump and egg | 7.50 | 7.50 |

*Refineries will absorb freight to 80 cents a ton.

## Neutral Oils

(Viscosity at 100° F. and color)

| OKLAHOMA (Group 3)— | Jan. 17 | | Jan. 10 | |
|---|---|---|---|---|
| Zero to 10 Cold Test: | | | | |
| 150-3 | .06¼ | .06½ | .06¼ | .06½ |
| 180-3 | .07½ | .07¾ | .07½ | .07¾ |
| 180-4 | .07 | .07¼ | .07 | .07¼ |
| 200-3 | .08¼ | .08½ | .08¼ | .08½ |
| 200-4 | .08 | .08¼ | .08 | .08¼ |
| 240-3 | .09¾ | .10 | .09¾ | .10 |
| 240-4 | .09¼ | .09½ | .09¼ | .09½ |
| 280-3 | .11¼ | .11½ | .11¼ | .11½ |
| 280-4 | .10¼ | .10½ | .10¼ | .10½ |
| 300-3½ | .11⅝ | .12 | .11⅝ | .12 |
| 350-3½ | .12¼ | .12½ | .12¼ | .12½ |
| 400-4 | .12¾ | .13 | .12¾ | .13 |
| 500-4½ | .13 | .13½ | .13 | .13½ |
| 100-2 paraffin oil | .04¼ | .04½ | .04¼ | .04½ |
| 15-30 Cold Test: | | | | |
| 200-3 | .07½ | .07¾ | .07½ | .07¾ |
| 200-4 | .07¼ | .07½ | .07¼ | .07½ |
| 240-3 | .09¼ | .09½ | .09¼ | .09½ |
| 240-4 | .08¾ | .09 | .08¾ | .09 |
| 280-3 | .10¾ | .11 | .10¾ | .11 |
| 280-4 | .09¾ | .10 | .09¾ | .10 |
| PENNSYLVANIA— | | | | |
| 150 vis., No. 3, 400-405: | | | | |
| Zero pour test | .11¾ | .12 | .11¾ | .12 |
| 10 pour test | .11¼ | .11¾ | .11¼ | .11¾ |
| 15 pour test | .10 | .10½ | .10 | .10½ |
| 25 pour test | .09 | .09½ | .09 | .09½ |
| 180 vis., No. 3, 25 pour test | .12 | .12½ | .12 | .12½ |

| | | | | |
|---|---|---|---|---|
| 200 vis., No. 3: | | | | |
| Zero pour test | .18 | .19 | .18 | .19 |
| 10 pour test | .17 | .18 | .17 | .18 |
| 15 pour test | .16 | | .16 | |
| 25 pour test | .13½ | .14 | .13½ | .14 |
| 30 pour test | .13 | | .13 | |
| GULF COAST— | | | | |
| Pale Oils: | | | | |
| 100-2-2½ | .05¼ | .05½ | .05 | .05¼ |
| 200-3 | .06½ | | .06¼ | .07 |
| 300-3 | .07¼ | .07½ | .07¼ | |
| 500-3½ | .09¼ | .09½ | .09 | .09¼ |
| 750-3½ | .10¼ | .10½ | .10 | .10¼ |
| 1,200-3½ | .12½ | | .12 | .12¼ |
| 2,000-4 | .13½ | .14 | .13 | .13¼ |
| Red Oils: | | | | |
| 200-5-6 | .05¼ | .05½ | .05¼ | .05½ |
| 300-5-6 | .06½ | .06¾ | .06½ | .06¾ |
| 500-5-6 | .07½ | .07¾ | .07½ | .07¾ |
| 1,200-5-6 | .10½ | .11 | .10½ | .11 |
| 2,000-6 plus | .12¼ | .12½ | .12¼ | .12½ |
| CALIFORNIA— | | | | |
| Pale Oils: | | | | |
| 100-2½-3 | .09 | .10 | .09 | .10 |
| 200-2½-3 | .10 | .11 | .10 | .11 |
| 300-3-3½ | .11 | .11½ | .11 | .11½ |
| 350-3-4 | .11½ | .11¾ | .11½ | .11¾ |
| 400-3-4 | .11¾ | .12 | .11¾ | .12 |
| 450-3-4 | .12 | .12¼ | .12 | .12¼ |
| 550-3-4 | .12¼ | .12¾ | .12¼ | .12¾ |
| Red Oils: | | | | |
| 200-4-5 | .08¾ | .09¼ | .08¾ | .09¼ |
| 300-5-6 | .10 | .10½ | .10 | .10½ |
| 350-5-6 | .10½ | .11 | .10½ | .11 |
| 400-5-6 | .11 | .11½ | .11 | .11½ |
| 450-5-6 | .11½ | .11¾ | .11½ | .11¾ |
| 500-5-6 | .11¾ | .12 | .11¾ | .12 |
| 600-5-6½ | .12 | .12¼ | .12 | .12¼ |
| 700-6½ plus | .12¼ | .12½ | .12¼ | .12½ |
| 750-6½ plus | .12½ | .12¾ | .12½ | .12¾ |
| 900-6½ plus | .13 | .14½ | .13 | .14½ |

## Bright and Steam Refined Stocks

| | | | | |
|---|---|---|---|---|
| OKLAHOMA (Group 3)— | Jan. 17 | | Jan. 10 | |
| 630 light green | .07¾ | .08 | .07¾ | .08 |
| 600 light green S.R. | .05 | .06 | .05 | .06 |
| 600 dark green S.R. | .04 | .04½ | .04 | .04½ |
| Bright Stocks: | | | | |
| 190-200 D | .17½ | | .17½ | |
| 150-160 D, 0-10 | .15½ | | .15½ | |
| 150-160 D, 10-25 | .15 | | .15 | |
| 150-160 D, 25-40 | .14½ | | .14½ | |
| 150-160 E | .14½ | | .14½ | |
| PENNSYLVANIA— | | | | |
| 600 S.R. | .09½ | .10½ | .09½ | .10½ |
| 650 S.R. | .12 | .13 | .12 | .13 |
| 600 Pennsylvania flash | .13½ | .14 | .13½ | .14 |
| 630 D filtered | .18½ | .19 | .18½ | .19 |
| 600 E filtered | .13½ | .14½ | .13½ | .14½ |
| Pennsylvania Grade bright stock: | | | | |
| Bright Stock, No. 8 color, 145-50 vis. | | | | |
| 210-540-550 flash: | | | | |
| 10 pour test | .21 | .22½ | .21 | .22½ |
| 15 pour test | .20 | .21 | .20 | .21 |
| 25 pour test | .18 | .19 | .18 | .19 |

## Wax and Petrolatum

(Prices per pound)

| | | | | |
|---|---|---|---|---|
| OKLAHOMA (Group 3)— | Jan. 17 | | Jan. 10 | |
| 124-126 white crude scale | .01⅞ | .02 | .01⅞ | .02 |
| PENNSYLVANIA— | | | | |
| 122-124 | .02⅛ | | .02⅛ | |
| 124-126 | .02⅛ | .02¼ | .02⅛ | .02¼ |
| NEW YORK (Bayonne, N. J.)— | | | | |
| 120-122 | .02⅜ | | .02½ | |
| 125-127 | .02¾ | | .02⅞ | |
| 130-132 | .03⅛ | | .03⅜ | |
| 133-135 | .04 | | .04⅛ | |
| 135-137 | .04¼ | | .04⅜ | |
| Petrolatum in barrels in carload lots: | | | | |
| Dark green | .01¾ | | .01¾ | |
| Amber | .02⅛ | | .02⅛ | |
| Extra amber | .02½ | | .02½ | |
| Lily white | .05½ | | .05½ | |
| Snow white | .06½ | | .06½ | |

## Export Prices

| | | | | |
|---|---|---|---|---|
| **GASOLINE** | | | | |
| GULF COAST— | Jan. 17 | | Jan. 10 | |
| U. S. Motor | .03⅝ | | .03½ | |
| 60-62 400 | .03⅞ | | .03¾ | |
| 61-63 390 | .03⅞ | | .03¾ | |
| 64-66 375 | .03⅞ | .04 | .03⅞ | .04 |
| LOS ANGELES, CALIF.— | | | | |
| U. S. Motor, 53-55, 437 e.p. | .03¾ | .04¼ | .03¾ | .04¼ |
| U. S. Motor, 65 octane num. | .04⅜ | .05 | .04⅜ | .05 |
| U. S. Motor, 67 octane num. | .05¼ | | .05¼ | |
| U. S. Motor, 69 octane num. | .05½ | | .05½ | |
| 58-60 400 endpoint gasoline | .04¼ | .05 | .04¼ | .05 |
| **KEROSENE** | | | | |
| GULF COAST— | | | | |
| 41-43 prime white | .04¼ | .04⅜ | .04¼ | |
| 41 water white | .04½ | .04⅝ | .04 | .04½ |
| LOS ANGELES, CALIF.— | | | | |
| 41-43 water white | .03¾ | .04¼ | .03¾ | .04¼ |
| **LUBRICANTS** | | | | |
| NEW YORK (f.a.s. in bbls.)— | | | | |
| 600 filtered | .22 | | .22 | |
| 600 Warren E | .19 | | .19 | |
| 600 S.R. unfiltered | .15½ | | .16 | |
| 650 S.R. unfiltered | .17½ | | .18 | |
| 600 flash S.R. | .18½ | | .19 | |
| 630 flash S.R. | .23½ | | .24 | |
| Bright stock, No. 8 color | .23 | | .24 | |
| Bright stock, No. 6½ color, dil. | .23½ | | .23½ | |
| **NEUTRALS** | | | | |
| NEW YORK—Pale Engine Oil, Bulk (vis. at 100)— | | | | |
| 230-3¾ | .09¾ | | .09¾ | |
| 180-3¼ | .09½ | | .09½ | |
| 100-2¼ | .05 | | .05 | |
| Red Engine Oil, Bulk (vis. at 100): | | | | |
| 300-6½ | .09½ | | .09½ | |
| 250-6 | .08¾ | .09 | .08¾ | .09 |
| 200-6 | .08¼ | | .08¼ | |
| Cream | .04⅞ | | .04⅞ | |

## Crude Oil Prices

### Oklahoma, Kansas, North and East Central Texas

East Texas (Dec. 15, 1932) .....$ .75
Corsicana, heavy (Jan. 1, 1933)* ..... .50
Other fields .....See gravity table

East Texas posted by Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co. (Dec. 16), Panola Pipe Line Co. (Dec. 17), The Texas Company, Shell Petroleum Corp. (Dec. 17), and Gulf Pipe Line Co.
Humble Oil & Refining Co., December 15. 1932; posted by Tidal Refining Co., December 16, 1932.
*Magnolia Petroleum Co.

### West Texas

Iatan and Westbrook..Same as North Texas Crane, Upton, Crockett, Howard, Glasscock, Mitchell, Ector, Winkler and Pecos counties.....See note below
Lea County, New Mexico .....(See Rocky Mountain States)
Toborg, Pecos County* .....$ .65

Note—Effective December 15, 1932, Magnolia Petroleum Co., Shell Petroleum Corp., December 17, 1932, 65 cents; effective December 16, 1932, Humble Oil & Refining Co., Gulf Petroleum Co. (Dec. 19), The Texas Company (Dec. 15), and Stanolind Oil & Gas Co., 50 cents. January 1, 1933, Magnolia Petroleum Co., 50 cents.
*Shell Petroleum Corp. effective October 18, 1932.

### Texas Panhandle

Gray County, Wheeler County and Carson-Hutchinson Counties....See gravity table

### Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers .....See gravity table
Jennings, La. (Dec. 19, 1932)* .....$ .60
Lockport, La.....Below 25 gravity 68 cents. differential 2 cents per degree beginning with 25-25.9 at 70 cents with 40 gravity and over at $1.
Refugio, light .....See gravity table
Refugio, heavy (Dec. 15, 1932)‡ ..... .65
Markham (Oct. 15, 1932)§ .....See Gulf Coast gravity schedule
High Island (Apr. 11, 1932)¶ .....See Gulf Coast gravity schedule

*Gulf Refining Co. ‡Humble Oil & Refining Co. §The Texas Company. ¶Yount Lee Pipe Line Co.

### South Central and Southwest Texas

Darst Creek .....See note below
Luling (Jan. 1, 1933)* .....$ .50
Mirando (Dec. 16, 1932)† ..... .55
Mirando (Jan. 1, 1933)* ..... .55
Pettus (Dec. 15, 1932)† ..... .50
Salt Flat .....See note below
Thrall‡ .....
Lytton Springs (Lockhart) (Jan. 1, 1933)* ..... .70
Dobrowolski§ .....
Same as Mid-Continent gravity scale up to and including 38-38.9*
Somerset‖ .....
Same as Mid-Continent gravity scale up to and including 38-38.9*

Note—Darst Creek, effective December 15, 1932, Magnolia Petroleum Co., The Texas Company, Gulf Pipe Line Co. and Humble Oil & Refining Co., 60 cents; Salt Flat, effective December 15, 1932, Magnolia Petroleum Co., 75 cents; effective December 16, 1932, Humble Oil & Refining Co., 60 cents; Shell Petroleum Corp., December 17, 1932, 60 cents; Humble Oil & Refining Co. posted 80 cents for Mirando crude oil on April 11, 1932.
*Posted by Magnolia Petroleum Co.
†Humble Oil & Refining Co.
‡Thrall prices same as North Central Texas, less 19¼ cents per cwt. freight.
§Pioneer Oil & Refining Co.
‖Greyburg Oil & Refining Co.

### North Louisiana and Arkansas

Smackover, Ark. (all grades) .....See note below
Urania, La. (Dec. 21, 1932) .....$ .55
East El Dorado, Ark. (Dec. 16, 1932).. .65
Stephens, Ark., below 29° (Apr. 12, 1932) .61
Stephens, Ark., 29° and above (Apr. 12, 1932) .....64
Sabine and DeSoto....Below 25 gravity 42 cents, with 2-cent differential per degree making 40 gravity and above at 74 cents.
Other fields .....See gravity table

Note—Smackover, all grades, effective December 16, 1932. Magnolia Petroleum Co., Louisiana Oil & Refining Co., The Texas Company (Dec. 15), Gulf Refining Co. of Louisiana, 50 cents; effective December 16, 1932, Standard Oil Co. of Louisiana, 30 cents. December 30, Root Refineries posted 40 cents for all grades of Smackover and East El Dorado crudes; Leon Oil & Refining Co. and McMillan Oil Products Co., 40 cents. Urania posted by H. L. Hunt, Inc., and Louisiana Oil & Refining Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co. Stephens, Ark., posted by Louisiana Oil & Refining Co. and Atlantic Oil Producing Co., 50 cents.

### Rocky Mountain States

OHIO OIL CO.-STANOLIND OIL & GAS CO
Iles, light (Dec. 16, 1932) .....$ .65
Iles, heavy (Dec. 16, 1932) ..... .50
Fort Collins, Wellington and Greasewood, Colo., are on contract basis.

Florence (Dec. 15, 1932) ..... .57
Dutton Creek, Wyo. (Dec. 16, 1932) ... .59
Rock Creek, Wyo. (Dec. 16, 1932) ..... .67
Frannie, light (Dec. 16, 1932) ..... .51
Frannie, heavy (Dec. 16, 1932) ..... .41
Salt Creek .....
See Stanolind Mid-Continent price schedule
LaBarge .....Mid-Continent gravity scale
Big Muddy (Dec. 16, 1932) ..... .75
Grass Creek (Dec. 16, 1932) ..... .57
Grass Creek heavy (Dec. 15, 1932) ..... .45
Elk Basin (Dec. 16, 1932) ..... .57
Lance Creek (Dec. 16, 1932) ..... .92
Poison Spider (Mar. 5, 1931) ..... .70
Hudson (June 2, 1931) ..... .65
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) ..... 1.10
Osage (Apr. 15, 1931) ..... .92
Lost Soldier (Apr. 12, 1932) ..... .80
Hamilton Dome (Dec. 16, 1932) ..... .25
Greybull (Dec. 16, 1932) ..... .87
Cat Creek (Dec. 15, 1932) ..... .87
Pondera (Nov. 7, 1932) ..... .60
Sunburst, Mont. (Nov. 7, 1932) ..... .75
Hogback, N. Mex. (Aug. 24, 1931) .... .80
Border, Mont. ..... 1.55

(Continued on Next Page)

## Crude Oil Gravity Table

| Deg. gravity— | Kansas, Oklahoma, North Texas, East Central Texas and Central Texas 1 | North Louisiana and Arkansas 2 | Hutchinson, Carson and Moore Counties, Texas 3 | Hutchinson, Carson and Moore Counties, 4 | Gray County, Texas 5 | Gray County, Texas 6 | Gulf Coast, Texas and Louisiana 7 | Gulf Coast, Texas and Louisiana 8 | Cameron Meadows, La. 9 | Salt Creek and LaBarge, Wyo. 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Below 20 | .... | .... | .... | .... | .... | .... | $.65 | $.58 | $.48 | .... |
| 20-20.9 | .... | .... | .... | .... | .... | .... | .65 | .60 | .50 | .... |
| 21-21.9 | .... | .... | .... | .... | .... | .... | .65 | .62 | .52 | .... |
| 22-22.9 | .... | .... | .... | .... | .... | .... | .67 | .64 | .54 | .... |
| 23-23.9 | .... | .... | .... | .... | .... | .... | .69 | .66 | .56 | .... |
| 24-24.9 | .... | .... | .... | .... | .... | .... | .71 | .68 | .58 | .... |
| Below 25 | $.45 | $.39 | .... | .... | .... | .... | .... | .... | .... | .... |
| 25-25.9 | .47 | .41 | .... | .... | .... | .... | .73 | .70 | .60 | .... |
| 26-26.9 | .49 | .43 | .... | .... | .... | .... | .75 | .72 | .62 | .... |
| 27-27.9 | .51 | .45 | .... | .... | .... | .... | .77 | .74 | .64 | .... |
| 28-28.9 | .53 | .47 | .... | .... | .... | .... | .79 | .76 | .66 | .... |
| Below 29 | .... | .... | .... | $.26 | .... | $.36 | .... | .... | .... | $.53 |
| 29-29.9 | .55 | .49 | .... | .28 | .... | .38 | .81 | .78 | .68 | .55 |
| 30-30.9 | .57 | .51 | .... | .30 | .... | .40 | .83 | .80 | .70 | .57 |
| 31-31.9 | .59 | .53 | .... | .32 | .... | .42 | .85 | .82 | .72 | .59 |
| 32-32.9 | .61 | .55 | .... | .34 | .... | .44 | .87 | .84 | .74 | .61 |
| 33-33.9 | .63 | .57 | .... | .36 | .... | .46 | .89 | .86 | .76 | .63 |
| 34-34.9 | .65 | .59 | $.51 | .38 | $.56 | .48 | .91 | .88 | .78 | .65 |
| 35-35.9 | .67 | .61 | .53 | .40 | .58 | .50 | .... | .... | .... | .67 |
| 36-36.9 | .69 | .63 | .55 | .42 | .60 | .52 | .... | .... | .... | .69 |
| 37-37.9 | .71 | .65 | .57 | .44 | .62 | .54 | .... | .... | .... | .71 |
| 38-38.9 | .73 | .67 | .59* | .46 | .64 | .56 | .... | .... | .... | .73 |
| 39-39.9 | .75 | .69 | .61 | .48 | .66 | .58 | .... | .... | .... | .75 |
| 40 and over | .77 | .71 | .63 | .50 | .68 | .60 | .... | .... | .... | .77 |

Note—The Standard Oil Co. of Louisiana, effective December 16, posted the following schedule of prices in North Louisiana and Arkansas in the fields in which it purchases on a gravity basis: Caddo, below 25 degrees, 39 cents; 40 degrees and above, 71 cents; Sabine and DeSoto, below 25 gravity, 42 cents; 40 gravity and above, 74 cents; Homer, below 25 gravity, 44 cents; 40 gravity and above, 76 cents; Sarepta and Carterville, below 25 gravity, 35 cents; 40 gravity and above, 67 cents; El Dorado, below 25 gravity, 42 cents; 40 gravity and above, 74 cents; Haynesville, below 25 gravity, 33 cents; 40 gravity and above, 65 cents. The above all to carry 2 cents differential for each degree of gravity.

Column 1—Posted by Humble Oil & Refining Co., effective December 15, in North Texas, East Central Texas and Central Texas. Effective December 16, Carter Oil Co., in Kansas and Oklahoma, effective December 15, Sinclair Prairie Oil Marketing Co., in Kansas, Oklahoma, North Texas, Central Texas and East Central Texas; by The Texas Company, December 20, in Oklahoma and North and Central Texas and East Central Texas; in Kansas, Oklahoma and North Texas by Continental Oil Co., effective December 15; in Kansas and Oklahoma by Philtex Oil Co., Empire Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., December 15; Gypsy Oil Co., December 19; National Refining Co., December 16; in Oklahoma by Champlin Refining Co., effective December 16; in North and Central Texas by the Gulf Pipe Line Co., December 17; in Kansas by the Skelly Oil Co. and White Eagle Oil Corp., Kansas, Oklahoma and North Central Texas by the Stanolind Crude Oil Purchasing Co., December 16. Effective December 16 in Kansas, Kanotex Refining Co. posted 28-28.9 degrees, 53 cents, with 2 cents added for each degree upward to 40 degrees and over. Eldorado Refining Co. adopted Stanolind prices in Kansas, effective December 16, and Magnolia Petroleum Co. adopted the schedule in Oklahoma, North Texas, East Central Texas and Central Texas on January 1, 1933.

Column 2—Effective December 16, by The Texas Company and Louisiana Oil Refining Co., as per schedule above and Gulf Refining Co., December 17. Magnolia Petroleum Co., January 1, 1933. (See note below table.)

Column 3—Effective December 15, Humble Oil & Refining Co. and Continental Oil Co.; December 19, Gulf Production Co.; January 1, 1933, Magnolia Petroleum Co.

Column 4—Philtex Oil Co., December 16.

Column 5—Effective December 15, Humble Oil & Refining Co., Continental Oil Co. and H. F. Wilcox Oil & Gas Co.

Column 6—Philtex Oil Co., December 16.

Column 7—The Texas Company, effective December 20, 1932.

Column 8—Effective December 15, by Humble Oil & Refining Co. in Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge and Refugio light oil. Sinclair Prairie Oil Marketing Co. in Boling, Barbers Hill and West Columbia, December 15. Magnolia Petroleum Co. in Lockport and Iowa, Louisiana, January 1, 1933. Conroe posted by Humble Oil & Refining Co., December 15, as follows: 35-35.9 gravity, 30 cents, with 2-cent differential per degree, making 40 gravity oil and above 90 cents.

Column 9—Magnolia Petroleum Co., effective January 1.

Column 10—Stanolind Oil & Gas Co., December 16.

(California Crude Oil Prices on Page 36)

## Many Uncertainties in Operations on Gulf Coast

(Continued from Page 6)

Pledger in Brazoria County. Reflection shooting in that area indicated that there was an arching in the beds at approximately 1,500 feet. Drilling on the first and discovery well, however, met no favorable indications down to 5,500 feet and the test might have been abandoned there had not the laboratory men advised drillers to go a little deeper, basing their advice on the cores and cutting which had been closely studied. Experience had taught them that certain formations might be expected at certain depths past the markers taken and so the well was drilled to its present depth of 6,287 feet where it was completed as a high pressure gas well.

### Boulders Cause Trouble

One of the biggest sources of grief in coastal drilling is that of boulders. As the sediments in this territory are not as compact as in the older formations of other districts, boulders here have a way of slipping into the hole when once passed and more than one operator has learned to his sorrow that a boulder once encountered is a serious problem. The main hazard is that of a crooked hole with possible stuck drill stem and consequent costly fishing jobs. But each boulder presents is own problem until casing is set past it.

The completion of wells on the coast presents more problems and uncertainties than in any other district. In fact, every well on the coast is an individual problem in itself and must be so handled considering general Gulf Coast practice. Records taken from some of the older fields show that the sands encountered may be missing in offsetting wells, that the characteristics of the sand in one well usually mean nothing to that in offsetting wells with respect to porosity, size of grains, water level, gravity of the oil or numerous other factors.

Summing up, this is the country of the explorer and to that operator having that frame of mind is the country an inviting prospect. Yet to the one that will explore using the best aid and equipment available there are unlimited possibilities.

## Trend in Motor Fuel Is Toward Greater Volatilty

(Continued from Page 21)

without fear of vapor locking. More specifically stated, the laboratory tests and road tests indicate that the following range of vapor pressures may be used:

REID VAPOR PRESSURE OF MOTOR FUEL

| Atmospheric temp. °F. | In cars (lbs.) | At refinery (lbs.) |
|---|---|---|
| Below 100 | 8 | 9 |
| Below 80 | 11 | 12 |
| Below 60 | 15 | 16 |

Although no official recognition is given to these findings in the form of liberalizing the specifications on fuel purchased by the Federal Government, the findings do have a strong influence in guiding future discussions. This trend toward higher vapor pressures is being favored by refiners as well as natural gasoline manufacturers. So, if put into practice, we may expect a rather drastic change in the distillation points of all grades of gasoline. The extent of this change is emphasized by the fact that the average Reid vapor pressure is within a range of 7.6 to 9.5 pounds at present.

## Production Program Committee Is Named

The program for the division of production of the American Petroleum Institute in mid-year meeting at Tulsa on May 17, 18 and 19 will be sponsored by the committee on drilling and production practice, it has been announced by Carl A. Young, secretary of the division. The central committee is presided over by H. N. Marsh of the General Petroleum Corp. of California. Members named to work out a program include Mr. Marsh and the following: W. K. Whiteford, Barnsdall Oil Co., Tulsa; C. E. Beecher, The Empire Companies, Bartlesville; E. H. Griswold, Continental Oil Co., New York; A. C. Rubel, Union Oil Co. of California, Los Angeles; H. D. Wilde, Jr., Humble Oil & Refining Co., Houston; Fred E. Wood, Standard Oil Co. (Indiana), Chicago; and C. A. Young, secretary, American Petroleum Institute, Dallas.

## Motor Fuel Consumption Drop Less Than Expected

Decline in consumption of motor fuels in 1932 was not as great as the industry had feared, it is indicated by figures compiled by Fred Van Covern, staff statistician of the American Petroleum Institute. The total decline amounted to about 41,000,000 bbls., or 9.2 per cent, as compared with the 1931 figures, and the domestic consumption was only 7.8 per cent lower. In 1931 domestic consumption amounted to 407,843,000 bbls., which was a new record and 2.6 per cent increase over 1930. In 1932 domestic consumption amounted to 376,078,000 bbls. Exports declined from 45,716,000 to 35,831,000 bbls., a falling off of 21.6 per cent; and the respective totals for 1931 were 453,559,000 and 411,090,000 bbls.

The figures compiled by Mr. Van Covern show that for the first six months of 1932 consumption declined 6.8 per cent for the domestic uses and 7.3 per cent for the total. In all of the other months of the year, with the exception of November, the decline was much greater, reaching a height of 15 per cent in August. Less motor fuel was consumed in December than in any other month, but the decline for both domestic and total consumption was only 11.4 per cent.

# California Crude Oil Prices

**STANDARD OIL CO. OF CALIFORNIA**
(Effective June 26, 1932)

For current purchases of crude oil at the well (unless otherwise specified.) (All gravities above those quoted take highest price offered in that field.)

| Gravity— | Signal Hill (Long Beach) | Seal Beach, Alamitos Heights, Huntington Beach | Inglewood | Playa Del Rey | Olinda-Brea Canyon | Torrance | Richfield | Coyote Hills | Santa Fe Springs | Midway-Sunset, Elk Hills, Buena Vista Hills | Lost Hills | Athens, Rosecrans, Dominguez | Montebello | Wheeler Ridge | Coalinga | Whittier-La Habra |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14-14.9 | $.65 | $.65 | $.65 | $.65 | $.65 | $.65 | $.65 | $.65 | .... | $.55 | $.55 | .... | $.65 | $.55 | $.55 | $.65 |
| 15-15.9 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .... | .55 | .55 | .. | .65 | .55 | .55 | .65 |
| 16-16.9 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .... | .55 | .55 | .. | .65 | .55 | .55 | .65 |
| 17-17.9 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .... | .55 | .55 | .. | .65 | .55 | .55 | .65 |
| 18-18.9 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .... | .55 | .55 | .... | .65 | .55 | .55 | .65 |
| 19-19.9 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .... | .55 | .55 | .... | .65 | .55 | .55 | .65 |
| 20-20.9 | .69 | .69 | .71 | .69 | .69 | .69 | .69 | .65 | .... | .59 | .59 | .... | .65 | .57 | .59 | .68 |
| 21-21.9 | .74 | .74 | .77 | .74 | .74 | .74 | .74 | .66 | .... | .63 | .63 | .... | .67 | .60 | .62 | .72 |
| 22-22.9 | .79 | .79 | .82 | .78 | .79 | .79 | .79 | .70 | .... | .69 | .69 | .... | .70 | .63 | .65 | .77 |
| 23-23.9 | .84 | .84 | .88 | .82 | .84 | .84 | .84 | .76 | .... | .75 | .75 | .... | .75 | .66 | .68 | .83 |
| 24-24.9 | .89 | .89 | .93 | .86 | .89 | .89 | .89 | .81 | $.73 | .81 | .81 | $.89 | .76 | .69 | .72 | .89 |
| 25-25.9 | .93 | .93 | .... | .91 | .93 | .93 | .93 | .86 | .78 | .87 | .87 | .93 | .80 | .72 | .75 | .... |
| 26-26.9 | .97 | .97 | .... | .96 | .97 | .... | .... | .90 | .84 | .92 | .91 | .97 | .... | .... | .... | .... |
| 27-27.9 | 1.00 | .. | .... | .... | 1.00 | .... | .... | .94 | .89 | .97 | .94 | 1.00 | .. | .... | .... | .... |
| 28-28.9 | 1.03 | .... | .... | .... | 1.03 | .... | .... | .98 | .94 | 1.02 | .99 | 1.03 | .... | .... | .... | .... |
| 29-29.9 | 1.06 | .... | .... | .... | .... | .... | .... | 1.02 | .98 | 1.07 | 1.02 | 1.06 | .... | .... | .... | .... |
| 30-30.9 | 1.09 | .... | .... | .... | .... | .... | .... | 1.05 | 1.02 | 1.12 | 1.05 | 1.09 | .... | .... | .... | .... |
| 31-31.9 | .... | .... | .... | .... | .... | .... | .... | .... | 1.06 | .... | .... | 1.12 | .... | .... | .... | .... |
| 32-32.9 | .... | .... | .... | .... | .... | .... | .... | .... | 1.10 | .... | .... | 1.15 | .... | .... | .... | .... |
| 33-33.9 | .... | .... | .... | .... | .... | .... | .... | .... | 1.14 | .... | .... | .... | .... | .... | .... | .... |
| 34-34.9 | .... | .... | .... | .... | .... | .... | .... | .... | 1.18 | .... | .... | .... | .... | .... | .... | .... |
| 35-35.9 | .... | .... | .... | .... | .... | .... | .... | .... | 1.22 | .... | .... | .... | .... | .... | .... | .... |

The Texas Company, effective June 26, posted same prices as the Standard Oil Co. in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield, Montebello, North Whittier and Santa Fe Springs.

The Union Oil Co., effective June 26, posted the same price as the Standard Oil Co. in the Signal Hill, Alamitos Heights, Seal Beach, Huntington Beach, Athens, Rosecrans, Dominguez, Torrance, Santa Fe Springs, Playa Del Rey, Coyote, Olinda, Brea Canyon, Richfield and Montebello. In Coalinga, Lost Hills, Kern River, McKittrick, Midway-Sunset, Elk Hills and Buena Vista Hills the Union Oil Co. met the Standard Oil Co.'s prices from 14 gravity upward, but posted a price of 50 cents for oil 11 to 13.9 degrees in gravity.

General Petroleum adopted Standard Oil Co.'s prices, effective June 26, in Rosecrans, Signal Hill, Alamitos Heights, Santa Fe Springs, Inglewood, Torrance, Brea Canyon and Olinda, up to 25.9 degrees; Richfield, Midway-Sunset, Kern River, Mount Poso, Round Mountain and Coalinga and posted in Rincon as follows: 22-22.9 degrees, 68 cents; 23-23.9 degrees, 73 cents; 24-24.9 degrees, 78 cents; 25-25.9 degrees, 83 cents; 26-26.9 degrees, 86 cents; 27-27.9 degrees, 89 cents; 28-28.9 degrees, 92 cents; 29-29.9 degrees, 95 cents, 30 degrees and over, 98 cents. In Rosecrans, General Petroleum Co. pays 65 cents for 14 to 19.9 gravity oil; 20-20.9 degrees, 69 cents; 21-21.9 degrees, 74 cents; 22-22.9 degrees, 79 cents; 23-23.9 degrees, 85 cents, and Standard's prices for oil of higher gravity.

Associated Oil Co., effective June 26, met Standard Oil Co.'s prices in Signal Hill, Huntington Beach, Seal Beach, Alamitos Heights, Richfield, Torrance, Inglewood, Athens, Rosecrans, Dominguez, Santa Fe Springs, McKittrick, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills, Lost Hills, Belridge and Coalinga.

**Kettleman Hills**—The Union Oil Co., effective June 26, posted 32-32.9 gravity oil at 91 cents; 34-34.9 degrees, 93 cents; 35-35.9 degrees, 95 cents; 36-36.9 degrees, 97 cents; 37-37.9 degrees, 99 cents; 38-38.9 degrees, $1.01; 39 degrees and over, $1.03. Standard Oil Co., Associated Oil Co. and General Petroleum Co. adopted same price schedule on same day.

**Santa Paula**—The Union Oil Co. and The Texas Company, effective June 26, posted as follows: 14 degrees to 19.9 degrees, 66 cents; 20-20.9 degrees, 69 cents; 21-21.9 degrees, 72 cents; 22-22.9 degrees, 76 cents; 23-23.9 degrees, 78 cents; 24-24.9 degrees, 81 cents; 25-25.9 degrees, 84 cents; 26-26.9 degrees, 87 cents; 27-27.9 degrees, 90 cents; 28-28.9 degrees, 93 cents; 29 degrees and above, 99 cents.

**Shields Canyon and South Mountain**—The Texas Company, effective June 26, posted same prices as in Santa Paula.

**Orcutt**—The Union Oil Co., effective June 26, posted prices as follows: 16 degrees to 19.9 degrees, 55 cents; 20-20.9 degrees, 59 cents; 21-21.9 degrees, 63 cents; 22-22.9 degrees, 69 cents; 23-23.9 degrees, 75 cents; 24-24.9 degrees, 81 cents; 25-25.9 degrees, 87 cents; 26 degrees and above, 92 cents.

**Playa Del Rey**—Subject to a field gathering charge of 5 cents per barrel.

**Newhall, McKittrick and Kern River**—Standard Oil Co., effective June 23, 1931, posted 55 cents for oil of all grades.

**Elwood Terrace**—Standard Oil Co., effective June 26, 1932, posts 33-33.9 degrees, $1.04; 34-34.9 degrees, $1.10; 35-35.9 degrees, $1.16; 36-36.9 degrees, $1.22; 37-37.9 degrees, $1.28. All prices f.o.b. ships.

**Ventura Avenue**—General Petroleum Co. and Associated Oil Co. effective June 26 posted as follows: 23-23.9 degrees, 72 cents; 23-23.9 degrees, 77 cents; 24-24.9 degrees, 83 cents; 25-25.9 degrees, 86 cents; 26-26.9 degrees, 90 cents; 27-27.9 degrees, 93 cents; 28-28.9 degrees, 96 cents; 29-29.9 degrees, 99 cents; 30 degrees and over, $1.02.

**Potrero**—Associated Oil Co., effective June 26, posted same prices as are paid by all companies in Athens, Rosecrans and Dominguez.

## Crude Oil Prices

(Continued from Preceding Page)

| | |
|---|---|
| Red Coulee, Alberta | 1.66 |
| Lea County, N. Mex. | See note below |
| Maljamar (Dec. 15, 1932) | .45 |
| Artesia-Jackson (Dec. 15, 1932) | .50 |

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coulee posted by Imperial Refining Co. Lea County, effective December 17, posted by Shell Petroleum Corp., 50 cents; effective December 15, 1932, Humble Oil & Refining Co., 50 cents. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro Oil & Refining Co.

### Eastern States

JOSEPH SEEP PURCHASING AGENCY
(Effective October 3, 1932)

| | |
|---|---|
| Pennsylvania Grade Oil in National Transit Lines (Bradford Field) | $1.71 |
| Pennsylvania Grade Oil in Southwest Pennsylvania Lines | 1.42 |
| Penna Grade Oil in Eureka Pipe Line Lines | 1.37 |
| Penna Grade Oil in Buckeye Pipe Line Lines | 1.31 |
| Corning Grade Oil in Buckeye Pipe Line Co.'s line (Oct. 4, 1932) | .81 |
| Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 16, 1931) | .60 |

PENNZOIL CO.
(Effective October 3, 1932)

| | |
|---|---|
| Pennsylvania Grade Oil in National Transit Lines: | |
| Group A | $1.67 |
| Includes Cochran, Franklin, Hamilton and Doolittle districts. | |
| Group B | 1.66 |
| Includes Titusville district. | |
| Group C | 1.66 |
| Includes Turkey and Tidioute districts. | |
| Group D | 1.64 |
| Includes Bear Creek and Porkey districts. | |
| Group E | 1.62 |
| Includes Eidenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinsua districts. | |
| Price depends on length of pipe line haul to plant at Oil City. | |

TIDE WATER PIPE CO.
(Effective October 3, 1932)

| | |
|---|---|
| Bradford, Pa. | $1.72 |
| Allegany, N. Y. | 1.72 |

PURE OIL CO.
(Effective October 3, 1932)

| | |
|---|---|
| Cabin Creek, W. Va. | $1.37 |
| Bradford Hollow, W. Va. | 1.37 |
| Kelly's Creek, W. Va. | 1.37 |

### Middle Western States

OHIO OIL CO.
(Effective December 16, 1932)

| | |
|---|---|
| Lima (Jan. 10, 1933) | $ .90 |
| Wooster | .91 |
| Illinois | .87 |
| Indiana | .53 |
| Princeton | .87 |
| Plymouth | Shut in |
| Western Kentucky | .82 |
| Midland, Mich. (Dec. 31, 1932)* | .95 |
| Somerset, Ky. (Dec. 19, 1932) | .65 |
| Hart County, Ky. (Dec. 21, 1932)‡ | .65 |

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. †Naph-Sol Refining Co. ‡Posted by Stoll Refining Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through own pipe line.

### Mexico

| | |
|---|---|
| Panuco* | $ .45 |

*F.o.b. ship, based on November transactions and exclusive of production and export taxes and bar dues.

### Canada

| | |
|---|---|
| Ontario (Nov. 3, 1931): | |
| Petrolia* | $1.99 |
| Oil Springs* | 1.97 |
| Alberta (Apr. 22, 1932): | |
| Turner Valley†: | |
| Crude oil 40-44.9 | 1.56 |
| Crude oil 45-45.9 | 2.13 |
| Crude oil 50 and above | 2.80 |
| Crude naphtha | 3.33 |
| Discolored naphtha | 3.08 |

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

# NATURAL GASOLINE

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# Battle of Injunctions Now Raging in East Texas; Hearings Pending in State and Federal Courts

By L. E. BREDBERG

DALLAS, Tex., Jan. 16.—When the Railroad Commission resumes its hearing on January 19, Representative Bob Long of Wichita Falls, chairman of the legislative committee appointed to investigate proration enforcement in East Texas, who expressed dissatisfaction with the commission's inquiry, will have his committee also open a hearing at Tyler. Mr. Long said the main reason for his committee holding a hearing was that "no man ever would investigate himself and find himself guilty."

Attorney Tom Pollard, counsel for the East Texas Producers & Royalty Owners Association, announced that he expected to continue the inquiry into affairs of the Atlantic Pipe Line Co., and proceed from that to the former firm of Golding and Murchison.

While the Railroad Commission, reinforced by the attorney general's department, is holding an inquiry into enforcement, several operators have obtained injunctions against these two bodies, state courts and Federal courts alike granting these injunctions to prevent the commission from interfering with the producing of their leases and operating of their properties under the new orders.

On January 7 the Etex Oil Co. obtained an injunction in the Ninety-fourth District Court at Dallas, prohibiting the commission from examining its records, or entering the premises of the Southern Oil Refining Co., owner of a refinery at Kilgore and a crude gathering system in Rusk and Gregg Counties. Hearing will be held on January 28. Efforts have been made by the attorney general's department to have the writ dissolved.

### Application for Injunction

Rowan-Nichols Oil Co. made application for an injunction against the commission on December 21, but hearing was carried over until a later date, an amended petition being filed by the company on January 11 at Fort Worth. This injunction will test the validity of the commission's new proration order. The complainants are of opinion that proration based on structural position and sand thickness of wells would be more equitable.

Five other independent operators have also filed applications in the Federal court at Fort Worth. Restraining orders were sought against the commission, the governor and the attorney general. Transfer of these applications was made on January 10 when Federal Judge Randolph Bryant of Tyler, on account of illness, granted permission for transfer to Judge James C. Wilson's court in Fort Worth. The Producers Investment Corp., Dallas; J. E. Carroll and J. E. Blaine, O'Connell Oil Corp. and R. W. Porter, Tyler, are the applicants for temporary orders. A hearing will be held in Fort Worth on January 24. The plaintiffs allege they have contracts for the sale of 1,000 bbls. per day and that this quantity can be produced without waste from wells now limited to 26 bbls. daily, plus a consideration up to 31 bbls. daily, dependent on the bottom-hole pressures.

Other applications for injunctions against the commission's orders have been filed in Federal court at Tyler, but due to the illness of Judge Bryant no action has been taken.

### State Seeks Injunction

While these applications were being filed the attorney general's department has been filing counter actions, the Taylor Refining Co. of Tyler, owner of a refinery and tank car rack at that place, coming in for a suit because it has failed to report on crude shipments via tank cars from its plant, which is prescribed by law on crude shipments. T. A. Johnson of Gregg County is involved in a similar suit, both of which will be heard at Austin by Judge Wheeler on January 21.

Judge C. A. Wheeler has also issued temporary injunctions in Austin against the Oriental Oil Co., D. B. Read, R. P. Bates, L. B. Manley and A. J. Rinehart. The State has asked penalties, amounting to $1,000 for each day's violation, against these producers.

A report was wired from Tyler today that Golding and Murchinson, operating as the American Liberty Oil Co., had made an agreement with the Railroad Commission that they would sign an agreement to abide by commission orders for a period covering from six months to a year if other violators would sign a similar agreement. Such other operators are to be visited by one of the attorneys active in the present hearing before the commission in an effort to obtain their signatures to such an agreement.

### Completions and Locations

Completions in the field fell off to 48 this week, seven under the previous week's number. However, locations gained by 14, totaling 49. There were no locations staked for wildcats. One wildcat was abandoned in Cherokee County, Bridges and Chandler's No. 1 Berryman in the H. Kimble Survey. Total depth was only 1,550 feet, not deep enough to test any oil sands found in the district.

### Wildcatting Activities

Loring Oil Co.'s No. 1 Swearingen in the Oliver Lund Survey, 1 mile south of Maydelle in Cherokee County, tested 600 feet of salt water from 4,916-24 feet, and is now coring at 4,951 feet. This has been an interesting wildcat test, but now looks like a dry hole.

Shell Petroleum Corp. and others will no doubt abandon their No. 1 Phillips in the Swayze Survey, Leon County, after making the third test, all three failing to show any appreciable amount of oil or gas. It was first tested at the bottom of the hole, from 6,146-57 feet. This deeper streak of sand failed to produce. Then it was plugged back to 6,054-58 feet, to the upper streak of sand and that also failed. It was cemented back to 6,045 feet last week and slowly redrilled to 6,060 feet where it again tested salt water.

The two streaks of well saturated sand looked sure to make a producer from either sand, but with the third test failing to bring production the associated companies will no doubt give it up and drill a second test somewhere on the unitized block.

Gardner Brothers' No. 1 John Leonard, Trinity sand test in the P. Mason Survey, northwest of the Van Field, Van Zandt County, is still fishing for drill stem. Total depth is 6,090 feet. The test cored white dry sand at 6,057-63 feet.

There were no locations or completions reported for the Van Field and only three tests are being drilled.

### Distribution Report

Pipe line runs from the East Texas Field for the week ending January 12 showed over 318,600 bbls. per day being moved out of the field by this method. Almost 22,000 bbls. per day were going to the 22 operating refineries in the field, seven other plants standing shut down. Slightly over 13,300 bbls. per day were moving out by tank cars. Total daily average distribution ran slightly over 353,900 bbls.

### COMPLETIONS IN EAST TEXAS

#### North Gregg County

Atlantic Oil Producing Co.'s No. 43 J. C. Judge, top sand 3,525 feet, initial production 64 bbls. per hour through tapered tubing, total depth 3,542 feet. Clark and Cowden's No. 1 Sheppard, top sand 3,595 feet, initial production 30 bbls. in one-fifth hour through 2-inch open tubing, total depth 3,613 feet. Humble Oil & Refining Co.'s No. 20 J. K. Edwards, top sand 3,608 feet, initial production 77 bbls. per hour through three-quarters inch tubing choke, total depth 3,644 feet; No. 23 W. R. Hughes, top sand 3,640 feet, initial production 66 bbls. per hour through three-quarters inch tubing choke, total depth 3,664 feet. Smith Oil & Gas Co.'s No. 1 R. M. Woods, top sand 3,640 feet, initial production 80 bbls. in 40 minutes through 2½-inch open tubing, total depth 3,660 feet. The Texas Company's No. 12 T. W. Lee, top sand 3,555 feet, initial production 102 bbls. per hour through 1-inch tubing choke, total depth 3,563 feet.

#### South Gregg County

Blue Star Oil Co.'s No. 6-D Sabine River, top sand 3,630 feet, initial production 45 bbls. in one-quarter hour through open tubing, total depth 3,545 feet. Gulf Production Co.'s No. 7 T. C. Reeves, top sand 3,524 feet, initial production 90 bbls. per hour through three-quarters inch tubing choke, total depth 3,536 feet. J. D. Holcomb's No. 2 Clayton, top sand 3,540 feet, initial production 50 bbls. in one-quarter hour through open tubing, total depth 3,555 feet. Magnolia Petroleum Co.'s No. 7 N. Radford, top sand 3,625 feet, initial production 168 bbls. per hour through 1-inch tubing choke, total depth 3,638 feet. Moore and others' No. 1 Foltz, top sand 3,550 feet, initial production 43 bbls. per hour through three-quarters inch tubing choke, total depth 3,582 feet. Rhoades Drilling Co.'s No. 10 Sabine River, top sand 3,543 feet, initial production 30 bbls. in one-half hour through 1-inch tubing choke, total depth 3,563 feet.

Shell Petroleum Corp.'s No. 8-B J. S. Elder, top sand 3,528 feet, initial production 25 bbls. in one-half hour through open tubing, total depth 3,575 feet. Sinclair Prairie Oil Co.'s No. 27-A A. A. King, top sand 3,489 feet, initial production 25 bbls. in 10 minutes through open tubing, total depth 3,518 feet; No. 26-B A. A. King, top sand 3,454 feet, initial production 25 bbls. in 10 minutes through open tubing, total depth 3,485 feet. Titan Oil Co.'s No. 2 C. N. Dixon, top sand 3,534 feet, initial production 50 bbls. per hour through open tubing, total depth 3,572 feet. Weaver-Crim Oil Co.'s No. 4 Ben Peterson, top sand 3,594 feet, initial production 24 bbls. in one-quarter hour through open tubing, total depth 3,617 feet. Welch and Sandler's No. 6 Barnett, top sand 3,724 feet, initial production 30 bbls. in one-half hour through open tubing, 40 to 45 per cent salt water, total depth 3,725 feet.

#### North Rusk County

L. Hickman's No. 3 Hindman, top sand 3,660 feet, initial production 35 bbls. per hour through open tubing, total depth

# Discussion of Gulf Coast Fields Features Program at A.A.P.G. Houston Meet

HOUSTON, Tex., Jan. 16.—Preliminary plans for the eighteenth annual convention of the American Association of Petroleum Geologists to be held here March 23-25, are now under way by the Houston Geological Society which will have charge of arrangements. Committees, which will look after the various details of the convention, have been appointed by the executive committee of the society, of which J. M. Vetter is president. Headquarters will be at the Rice Hotel.

Due to the interest which is centered in the Gulf Coast at this time, the program this year will feature papers and discussions on Gulf Coast subjects. So far the program has not been definitely made up but work on this is under way by the technical committee, of which Dr. Donald C. Barton is chairman. As is customary, the Society of Economic Paleontologists and Mineralogists and the Society of Petroleum Geophysicists will hold their conventions at the same time.

General arrangements for the convention are in the hands of a committee composed of Alexander Deussen, chairman, L. P. Garrett, W. E. Pratt, Fred C. Sealey and J. M. Vetter Other committees include:

Technical — Dr. Donald C. Barton, chairman, L. T. Barrow, George Bevier, Homer Noble, R. B. Paxton, H. W. Rose, F. W. Rolshausen, Louis A. Scholl, Jr., Paul Weaver and L. A. Williams.

Finance—Ben Belt, chairman, D. M. Cashin, Phil T. Martin, J. C. Miller and A. T. Schwennesen.

Reception—George Sawtelle, chairman, Sidney A. Jedson, Miss A. C. Ellisor, M. C. Israelsky, John C. Myers, J. E. La Rue and Russell F. Ryan.

Entertainment—John R. Suman, chairman, Frank C. Adams, M. M. Kornfeld, Paul Leavenworth, Elton Rhine, E. P. Tatum, John Weinzierl and Karl Young.

Registration — J. B. Eby, chairman, Donald B. Davis, W. F. Henneger, J. D. Hedley, D. E. Mather, B. G. Van Roeder, Cornelius Schnurr, J. N. Troxell and L. G. Christie.

Exhibits — Paul Hunter, chairman, J. B. Best, E. V. Hanson, H. E. Minor and Victor Lieb.

Publicity—Mark A. Hanna, chairman, E. E. Rosaire, Jack Logan and Neil Williams.

Trips—L. P. Teas, chairman, W. F. Bowman, W. B. McCarter, M. H. Steig, C. H. Ritz and A. G. Wolf.

Golf — J. S. Ivy, chairman, Dave P. Carlton, P. S. Justice, J. C. Cruze and C. A. Russell.

Ladies Entertainment — Mrs. D. C. Barton, chairman, Mrs. L. T. Barrow, Mrs. L. P. Garrett, Mrs. J. C. Miller, Mrs. W. E. Pratt, Mrs. John R. Suman and Miss Elizabeth Stiles.

# HIGH ANTIKNOCK RATING

The best possible motor fuel from your cracked and reformed gasoline at lowest cost

# LOW GUM

**THE GRAY PROCESSES CORPORATION**

**961 FRELINGHUYSEN AVENUE**

**NEWARK, N. J.**

3,690 feet. Houston Oil Co.'s No. 3-B Carlos Bean, top sand 3,586 feet, initial production 150 bbls. per hour through open tubing, total depth 3,636 feet; No. 4-B Carlos Bean, top sand 3,680 feet, initial production 100 bbls. per hour through open tubing, total depth 3,630 feet. Humble Oil & Refining Co.'s No. 50 L. D. Crim, top sand 3,593 feet, initial production 45 bbls. per hour through open tubing, total depth 3,609 feet; No. 74 L. D. Crim, top sand 3,662 feet, initial production 85 bbls. per hour through three-quarters inch tubing choke, total depth 3,684 feet; No. 80 Crim, top sand 3,567 feet, initial production 91 bbls. per hour through three-quarters inch tubing choke, total depth 3,621 feet. Tide Water Oil Co.'s No. 8 Jack Bean, top sand 3,638 feet, initial production 8 bbls. in five minutes through open tubing, total depth 3,618 feet; No. 11-A J. S. Bean, top sand 3,572 feet, initial production 9 bbls. in five minutes through 2-inch open tubing, total depth 3,630 feet. Sam K. Vierson's No. 3 Andy Givens, top sand 3,614 feet, initial production 75 bbls. per hour through open tubing, total depth 3,638 feet.

### South Rusk County

Fair & Thompson's No. 1 D. Bradford, top sand 3,598 feet, initial production 40 bbls. per hour through open 2-inch tubing, total depth 3,664 feet. Gulf Production Co.'s No. 3 W. O. Alford, top sand 3,739 feet, initial production 70 bbls. per hour through three-quarters-inch tubing choke, total depth 3,743 feet; No. 1 C. O. Crim, top sand 3,790 feet, initial production 75 bbls. per hour through three-quarters-inch tubing choke, total depth 3,800 feet. Humble Oil & Refining Co.'s No. 16-A Blackwell, top sand 3,643 feet, initial production 25 bbls. in 20 minutes through three-quarters-inch tubing choke, total depth 3,656 feet; No. 7-C Ida Holt, top sand 3,755 feet, initial production 38 bbls. per hour through three-quarters-inch tubing choke, total depth 3,814 feet; No. 17-A S. H. Plowman, top sand 3,674 feet, initial production 34 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,718 feet; No. 1-A Mary Smith, top sand 3,650 feet, initial production 40 bbls. per hour through three-quarters-inch tubing choke, total depth 3,768 feet; No. 9 C. J. Thompson, top sand 3,660 feet, initial production 32 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,701 feet; No. 10 C. J. Thompson, top sand 3,642 feet, initial production 50 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,683 feet; No. 14 J. H. Wooley, top sand 3,637 feet, initial production 28 bbls. in 20 minutes through three-quarters-inch tubing choke, total depth 3,657 feet. McMahon-McCulloch's No. 1 Joe Lee, dry and abandoned, total depth 3,677 feet.

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### WILDCAT COMPLETIONS

### Cherokee County

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Elwin E. Hadlick was re-elected president of the association and J. M. Wolf treasurer. The North Dakota division held its convention at Fargo, N. Dak.

## East Central Texas Wildcats

**Week Ending January 16**

**ANDERSON COUNTY**

| Company, well, farm name, section and block— | Remarks: |
|---|---|
| Barclay et al's No. 1 J. C. Beard, 150 ft. out of most westerly NE cor. of 178-ac. lease, J. Trimmer Sur. | S.D. 1,518 ft. |
| C. R. Wilmuth et al's No. 1 N. B. Watson, 500 ft. from W line and 4,350 ft. from N of S line of survey in 8¼ of 129-ac. tract, M. Main Sur. | T.D. 1,538 ft. |

**ANGELINA COUNTY**

| | |
|---|---|
| Crosbie et al's No. 1 John C. Davis, 150 ft. from N of center of tract and survey, John H. Graham Sur. | S.D. 645 ft. |
| W. J. Chandler's No. 1 L. J. Dearman, 350 ft. from S and W lines of 20-ac. tract, J. T. Peavy Sur. | S.D. 1,680 ft. |

**BOWIE COUNTY**

| | |
|---|---|
| Roy Anderson's No. 1 Dyk.s, 2 miles W of Texarkana, M. Dykes Sur. | S.D. 3,009 ft. |
| Tom Bell et al's No. 1 C. M. Moss, 1,800 ft. from N line and 3,160 ft. from W line of 465-ac. tract and survey, O. D. Walton Sur. | Drlg. 1,204 ft. |

**CHEROKEE COUNTY**

| | |
|---|---|
| Barkley Tate et al's No. 1 H. E. Neal, 330 ft. from N and W lines of tract, J. M. Prosella Sur. | Derrick. |
| Hooper et al's No. 1 Doctor Overton, 330 ft. from N and E lines of tract and 330 ft. out of most easterly NE cor. of survey, Wesley Dikes Sur. | Drlg. 3,260 ft. |
| L. J. Hopcroft et al's No. 1 J. R. Taylor, 2,600 ft. from E line and 2,000 ft. from S line of survey, G. M. Doherty Sur. | Location. |
| Loring Oil Co.'s No. 1 F. M. Swearingen, 330 ft. from S and E lines of 68-ac. tract, 2,800 ft. from W line and 330 ft. from S line of survey, Oliver Lund Sur., 1 mile SW of Maydelle | Coring 4,951 ft.; 600 ft. of salt water on drill stem test 4,916-24 ft. |
| Mid-Tex Oil Co.'s No. 1 A. Pace (formerly Clopton), 288 ft. from N line and 330 ft. from most northerly E line of 40-ac. lease, Wesley Dikes Sur. | Waiting on cmt. to set; T.D. 3,665 ft. |
| Wilson & Stubbs' No. 1 L. Robert, 450 ft. from S and 150 ft. from W line of lease, J. B. Wolfin Sur. | Prepare to deepen; T.D. 3,600 ft. |

**DELTA COUNTY**

| | |
|---|---|
| Commerce Oil Co.'s No. 1 Ablowich, 150 ft. from S line and 774 ft. from W line of H. D. Jewett 52-ac. tract, E. Chick Sur. | S.D. 3,813 ft. |

**ELLIS COUNTY**

| | |
|---|---|
| Armstrong's No. 1 Milton Cook, SE cor. of 50-ac. tract, S. Frederick Sur. | S.D. 375 ft. (corrected). |
| Armstrong Bros.' No. 1 Reeves | S.D. 300 ft. |
| Armstrong Bros.' No. 1 John Lee Winn, 1,650 ft. from E and 150 ft. from S of Orland, Orlo Wheeler Sur. | S.D. 1,435 ft. |
| George Beasley's No. 1 Francis Borck, 350 ft. from SW line and 350 ft. from S and E lines of tract and grant, 11 League grant | Rig up. |
| Clark Brooks' No. 1 Anderson, SE cor. of 1,900-ac. tract, 10 miles SW of Waxachachie, E. C. Branch Sur. | S.D. 1,050 ft. |
| Paris Oil Co.'s No. 1 O. S. Bain, 1,500 ft. from S line and 300 ft. from W line of 60-ac. lease, R. M. Williams Sur. | S.D. 985 ft. |

**FRANKLIN COUNTY**

| | |
|---|---|
| Whitecak Oil Co.'s No. 1 O. C. Clanton, 750 ft. from S line of survey and 150 ft. from W line of survey, S. McCreary Sur. | Derrick. |

**FREESTONE COUNTY**

| | |
|---|---|
| Clyde Creighton's No. 1 Holley Bros., 854 ft. from W line and center of N and S lines of lease, A.B.M. Sur. | S.D. 3,449 ft. |

**GREGG COUNTY**

| | |
|---|---|
| C. H. Brown et al's No. 1 Johnson, center of 1½-ac. lease, G. W. Hooper Sur. | Drlg. 2,950 ft. |
| Bay Oil Corp.'s No. 5 J. M. Wheeler, 150 ft. due N of Pelphrey Bros.' No. 1 Wheeler, D. Ferguson Sur. | Derrick. |
| Roy Bumpass et al's No. 1 fee, 350 ft. from W line of survey and 100 ft. from S line of survey, L. J. Rigsby Sur. | Waiting on cmt. to set; T.D. 3,658 ft. |
| Burke Royalty Co.'s No. 1 Carr, center of 200-ac. tract and lease, M. McCurry Sur. | Rig up and S.D. |
| A. P. Carr's No. 2 G. W. Rickey, N offset to Barker's No. 1 Rickey, William Carlton Sur. | Waiting on cmt. to set; T.D. 3,530 ft. |
| J. W. Crockett's No. 1 B. D. Russell, NW offset to Schulman's No. 1 Doris, M. V. Winkle Sur. | Waiting on standard rig; T.D. 3,540 ft. |
| J. B. Davant's No. 2 R. H. Rowland, 300 ft. S and 50 ft. W of Magnolia's No. 2 R. H. Rowland, M. V. Winkle Sur. | Waiting on cmt. to set; T.D. 3,540 ft. |
| Joe Edgar et al's No. 2 Stinchcomb, 79 ft. N and 36.4 ft. W of most northerly SW cor. of Stanolind's Key lease, W. H. Hart Sur. | Moving in. |

(Continued on Page 44)

## States Oil Conference Is Blocked by Texas

TOPEKA, Kans., Jan. 16.—Action of the Texas Railroad Commission in declining to accept an invitation to participate resulted in abandonment of plans for a tri-state oil conference.

The Kansas Public Service Commission had invited the Texas regulatory body and the Oklahoma Corporation Commission to join it in a conference for uniform conservation measures. The conference was to have been held in Oklahoma City January 20.

Thurman Hill, member of the Kansas commission, announced abandonment of the conference plans after receiving notice the Texas commission had declined the invitation.

"Apparently the Railroad Commission of Texas," Commissioner Hill said, "feels the oil problems are local and that Texas does not need to co-operate with the other oil states in working out the perplexing problems now confronting them.

"There may come a time when Texas will discover the need of co-operation. In the not far distant future the oil fields of western Kansas will control the oil market and if we adopt the same provincial policy, Texas will regret her policy of isolation.

"In my judgment the present demoralized condition of the oil industry in the Mid-Continent Field today is caused by lack of co-operation among the oil-producing states."

## Delayed Registration Would Aid Consumption

Delayed registration of motor vehicles, a suggestion designed to help motorists by postponing the date for buying new license plates until later in the year and to increase government revenues by assuring the continued payment of gasoline taxes, already is in effect in more than half the states.

Review of past years indicates that from 10 to 50 per cent, with an average of 20 per cent, of motor vehicles registered in the various states, have been idle from December 31 of one year to April 1 of the next because of failure to register on January 1. It has been suggested that if the registration date was put at April 1 or July 1, instead of January 1, these cars would continue to operate, thus producing revenue through gasoline taxation.

Only 19 of the states officially banned 1932 license plates on January 1 last. The other states either have granted a temporary moratorium, or officially delayed the registration date. Following are the new dates: January 15, Mississippi, South Carolina; January 31, Arizona, California, Colorado, Missouri, North Dakota; February 1, Florida, Georgia, Illinois, Indiana, Kentucky, Michigan, Nebraska, Nevada, South Dakota, Tennessee, Texas, Wisconsin; February 6, Louisiana; February 15, Minnesota; March 1, Maine, Oklahoma, Utah, Wyoming. New York (commercial vehicles); March 15, Montana; April 1, Idaho; April 15, Virginia; June 30, Oregon.

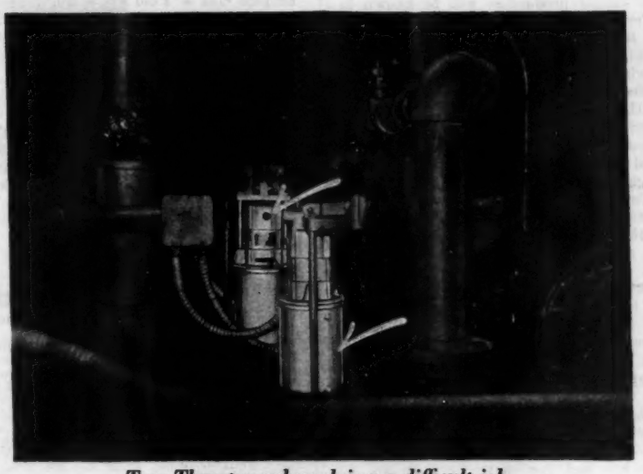
### ROAD BUILDERS' MEETING

DETROIT, Mich., Jan. 16.—More than 25,000 representatives of the highway construction business are in this city to attend the thirtieth annual convention of the American Road Builders' Association, which opens today and continues to Friday. A huge exhibit of road building equipment and materials is being held at Municipal Airport.

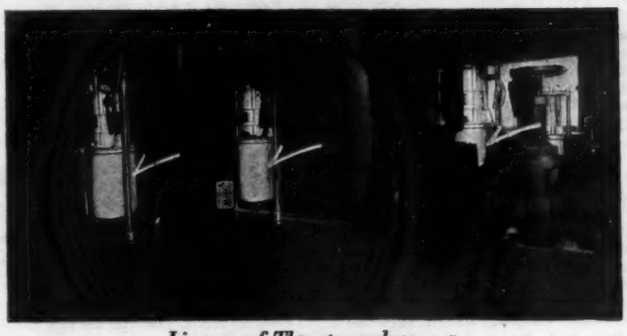
TO KEEP UP . . . CHECK UP . . .

# THRUSTOR Valves Solve Many Problems

A GENERAL ELECTRIC Thrustor valve solved the problem of automatic, accurate control of water for each batch of concrete according to weight—solved it to "our complete satisfaction" wrote the customer, and "this valve has functioned perfectly." A leather goods manufacturer writes: "The closing of the Thrustor valve, while being positive, is accomplished without sudden jar. We consider this unit to be a distinct improvement over former types of mechanical valve operation." Statements from users in a wide variety of industries attest the ability of Thrustor valves in solving difficult valving problems.



*Two Thrustor valves doing a difficult job under an electric fountain*



*Line-up of Thrustor valves—a typical installation*

To keep up—check up your present valves. In this list—which is representative of scores of applications—check those about which you would like complete information:

- ☐ Admitting and exhausting air
- ☐ Maintaining temperature in open tanks
- ☐ Maintaining water levels
- ☐ Introducing molasses or other heavy liquids
- ☐ Control of water flow (or other liquids)
- ☐ Controlling weight of materials
- ☐ Remote control
- ☐ .....
- ☐ .....

*Address your inquiry to the nearest G-E office, or General Electric Company, Schenectady, N. Y. Ask for a copy of publication GES-848, "Why Thrustor Valves?"*

301-117A

GENERAL ELECTRIC

3,690 feet. Houston Oil Co.'s No. 3-B Carlos Bean, top sand 3,586 feet, initial production 150 bbls. per hour through open tubing, total depth 3,636 feet; No. 4-B Carlos Bean, top sand 3,680 feet, initial production 100 bbls. per hour through open tubing, total depth 3,630 feet. Humble Oil & Refining Co.'s No. 50 L. D. Crim, top sand 3,593 feet, initial production 45 bbls. per hour through open tubing, total depth 3,609 feet; No. 74 L. D. Crim, top sand 3,662 feet, initial production 85 bbls. per hour through three-quarters inch tubing choke, total depth 3,684 feet; No. 80 Crim, top sand 3,567 feet, initial production 91 bbls. per hour through three-quarters inch tubing choke, total depth 3,621 feet. Tide Water Oil Co.'s No. 8 Jack Bean, top sand 3,638 feet, initial production 8 bbls. in five minutes through open tubing, total depth 3,618 feet; No. 11-A J. S. Bean, top sand 3,572 feet, initial production 9 bbls. in five minutes through 2-inch open tubing, total depth 3,630 feet. Sam K. Vierson's No. 3 Andy Givens, top sand 3,614 feet, initial production 75 bbls. per hour through open tubing, total depth 3,638 feet.

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**Week Ending January 16**

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| **ANDERSON COUNTY** | |
| Barclay et al's No. 1 J. C. Beard, 150 ft. out of most westerly NE cor. of 173-ac. lease, J. Trimmer Sur. | S.D. 1,518 ft. |
| C. R. Wilmuth et al's No. 1 N. B. Watson, 600 ft. from W line and 4,350 ft. from N of S line of survey in 8¼ of 129-ac. tract, M. Main Sur. | T.D. 1,538 ft. |
| **ANGELINA COUNTY** | |
| Crosbie et al's No. 1 John C. Davis, 150 ft. from N of center of tract and survey, John H. Graham Sur. | S.D. 645 ft. |
| W. J. Chandler's No. 1 L. J. Dearman, 350 ft. from S and W lines of 20-ac. tract, J. T. Peavy Sur. | S.D. 1,680 ft. |
| **BOWIE COUNTY** | |
| Roy Anderson's No. 1 Dyke, 2 miles W of Texarkana, M. Dykes Sur. | S.D. 3,009 ft. |
| Tom Bell et al's No. 1 C. M. Moss, 1,800 ft. from N line and 2,160 ft. from W line of 465-ac. tract and survey, O. D. Walton Sur. | Drlg. 1,204 ft. |
| **CHEROKEE COUNTY** | |
| Barkley Tate et al's No. 1 H. E. Neal, 330 ft. from N and W lines of tract, J. M. Procella Sur. | Derrick. |
| Hooper et al's No. 1 Doctor Overton, 330 ft. from N and E lines of tract and 330 ft. out of most easterly NE cor. of survey, Wesley Dikes Sur. | Drlg. 3,260 ft. |
| L. J. Hopcroft et al's No. 1 J. R. Taylor, 2,600 ft. from E line and 2,600 ft. from S line of survey, G. M. Doherty Sur. | Location. |
| Loring Oil Co.'s No. 1 F. M. Swearingen, 330 ft. from S and E lines of 68-ac. tract, 2,800 ft. from W line and 330 ft. from S line of survey, Oliver Lund Sur., 1 mile SW of Maydelle | Coring 4,951 ft.; 600 ft. of salt water on drill stem test 4,916-24 ft. |
| Mid-Tex Oil Co.'s No. 1 A. Pace (formerly Clopton), 288 ft. from N line and 330 ft. from most northerly E line of 40-ac. lease, Wesley Dikes Sur. | Waiting on cmt. to set; T.D. 3,-665 ft. |
| Wilson & Stubbs' No. 1 L. Robert, 450 ft. from S and 150 ft. from W line of lease, J. B. Wolfin Sur. | Prepare to deepen; T.D. 3,600 ft. |
| **DELTA COUNTY** | |
| Commerce Oil Co.'s No. 1 Ablowich, 150 ft. from S line and 774 ft. from W line of H. D. Jewett 52-ac. tract, E. Chick Sur. | S.D. 3,813 ft. |
| **ELLIS COUNTY** | |
| Armstrong's No. 1 Milton Cook, SE cor. of 50-ac. tract, S. Frederick Sur. | S.D. 375 ft. (corrected). |
| Armstrong Bros.' No. 1 Reeves | S.D. 300 ft. |
| Armstrong Bros.' No. 1 John Lee Winn, 1,650 ft. from E and 150 ft. from S of Orland, Orlo Wheeler Sur. | S.D. 1,435 ft. |
| George Beasley's No. 1 Francis Borck, 850 ft. from SW line and 350 ft. from S and E lines of tract and grant, 11 League grant | Rig up. |
| Clark Brooks' No. 1 Anderson, SE cor. of 3,000-ac. tract, 10 miles SW of Waxahachie, E. C. Branch Sur. | S.D. 1,050 ft. |
| Paris Oil Co.'s No. 1 O. S. Bain, 1,500 ft. from S line and 300 ft. from W line of 60-ac. lease, R. M. Williams Sur. | S.D. 986 ft. |
| **FRANKLIN COUNTY** | |
| Whiteoak Oil Co.'s No. 1 O. C. Cianton, 750 ft. from S line of survey and 150 ft. from W line of survey, S. McCreary Sur. | Derrick. |
| **FREESTONE COUNTY** | |
| Clyde Creighton's No. 1 Holley Bros., 854 ft. from W line and center of N and S lines of lease, A.B.M. Sur. | S.D. 3,649 ft. |
| **GREGG COUNTY** | |
| C. H. Brown et al's No. 1 Johnson, center of 1½-ac. lease, G. W. Hooper Sur. | Drlg. 2,950 ft. |
| Bay Oil Corp.'s No. 5 J. M. Wheeler, 150 ft. due N of Pelphrey Bros.' No. 1 Wheeler, D. Ferguson Sur. | Derrick. |
| Roy Bumpass et al's No. 1 fee, 350 ft. from W line of survey and 100 ft. from S line of survey, L. J. Rigsby Sur. | Waiting on cmt. to set; T.D. 3,-658 ft. |
| Burke Royalty Co.'s No. 1 Carr, center of 200-ac. tract and lease, M. McCurry Sur. | Rig up and S.D. |
| A. P. Carr's No. 2 G. W. Rickey, N offset to Barker's No. 1 Rickey, William Carlton Sur. | Waiting on cmt. to set; T.D. 3,-530 ft. |
| J. W. Crockett's No. 1 B. D. Russell, NW offset to Schulman's No. 1 Doris, M. V. Winkle Sur. | Waiting on standard rig; T.D. 3,-540 ft. |
| J. E. Davant's No. 2 R. H. Rowland, 300 ft. S and 50 ft. W of Magnolia's No. 2 R. H. Rowland, M. V. Winkle Sur. | Waiting on cmt. to set; T.D. 3,-540 ft. |
| Joe Edgar et al's No. 2 Stinchcomb, 79 ft. N and 36.4 ft. W of most northerly SW cor. of Stanolind's Key lease, W. H. Hart Sur. | Moving in. |

(Continued on Page 44)

## States Oil Conference Is Blocked by Texas

TOPEKA, Kans., Jan. 16.—Action of the Texas Railroad Commission in declining to accept an invitation to participate resulted in abandonment of plans for a tri-state oil conference.

The Kansas Public Service Commission had invited the Texas regulatory body and the Oklahoma Corporation Commission to join it in a conference for uniform conservation measures. The conference was to have been held in Oklahoma City January 20.

Thurman Hill, member of the Kansas commission, announced abandonment of the conference plans after receiving notice the Texas commission had declined the invitation.

"Apparently the Railroad Commission of Texas," Commissioner Hill said, "feels the oil problems are local and that Texas does not need to co-operate with the other oil states in working out the perplexing problems now confronting them.

"There may come a time when Texas will discover the need of co-operation. In the not far distant future the oil fields of western Kansas will control the oil market and if we adopt the same provincial policy, Texas will regret her policy of isolation.

"In my judgment the present demoralized condition of the oil industry in the Mid-Continent Field today is caused by lack of co-operation among the oil-producing states."

## Delayed Registration Would Aid Consumption

Delayed registration of motor vehicles, a suggestion designed to help motorists by postponing the date for buying new license plates until later in the year and to increase government revenues by assuring the continued payment of gasoline taxes, already is in effect in more than half the states.

Review of past years indicates that from 10 to 50 per cent, with an average of 20 per cent, of motor vehicles registered in the various states, have been idle from December 31 of one year to April 1 of the next because of failure to register on January 1. It has been suggested that if the registration date was put at April 1 or July 1, instead of January 1, these cars would continue to operate, thus producing revenue through gasoline taxation.

Only 19 of the states officially banned 1932 license plates on January 1 last. The other states either have granted a temporary moratorium, or officially delayed the registration date. Following are the new dates: January 15, Mississippi, South Carolina; January 31, Arizona, California, Colorado, Missouri, North Dakota; February 1, Florida, Georgia, Illinois, Indiana, Kentucky, Michigan, Nebraska, Nevada, South Dakota, Tennessee, Texas, Wisconsin; February 6, Louisiana; February 15, Minnesota; March 1, Maine, Oklahoma, Utah, Wyoming. New York (commercial vehicles); March 15, Montana; April 1, Idaho; April 15, Virginia; June 30, Oregon.

**ROAD BUILDERS' MEETING**

DETROIT, Mich., Jan. 16.—More than 25,000 representatives of the highway construction business are in this city to attend the thirtieth annual convention of the American Road Builders' Association, which opens today and continues to Friday. A huge exhibit of road building equipment and materials is being held at Municipal Airport.

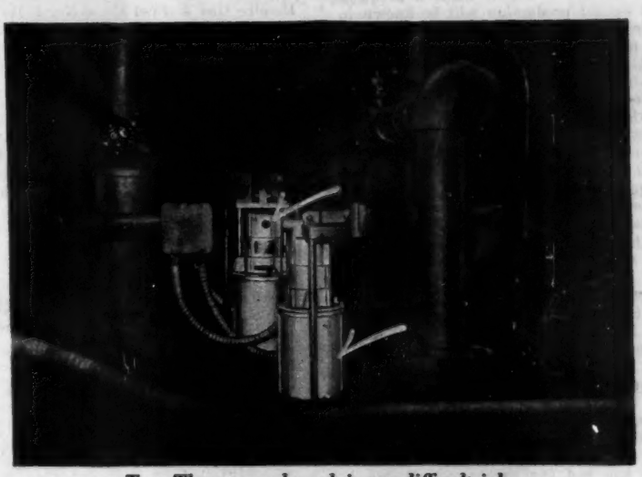
TO KEEP UP . . . CHECK UP . . .

# THRUSTOR Valves Solve Many Problems

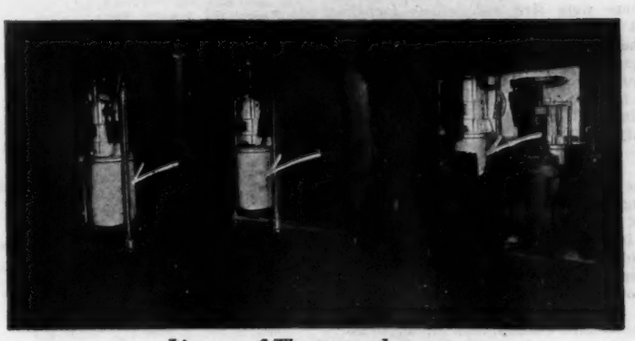
A GENERAL ELECTRIC Thrustor valve solved the problem of automatic, accurate control of water for each batch of concrete according to weight—solved it to "our complete satisfaction" wrote the customer, and "this valve has functioned perfectly." A leather goods manufacturer writes: "The closing of the Thrustor valve, while being positive, is accomplished without sudden jar. We consider this unit to be a distinct improvement over former types of mechanical valve operation." Statements from users in a wide variety of industries attest the ability of Thrustor valves in solving difficult valving problems.

To keep up—check up your present valves. In this list—which is representative of scores of applications—check those about which you would like complete information:

- ☐ Admitting and exhausting air
- ☐ Maintaining temperature in open tanks
- ☐ Maintaining water levels
- ☐ Introducing molasses or other heavy liquids
- ☐ Control of water flow (or other liquids)
- ☐ Controlling weight of materials
- ☐ Remote control
- ☐ .....
- ☐ .....



*Two Thrustor valves doing a difficult job under an electric fountain*



*Line-up of Thrustor valves—a typical installation*

*Address your inquiry to the nearest G-E office, or General Electric Company, Schenectady, N. Y. Ask for a copy of publication GES-848, "Why Thrustor Valves?"*

301-117A

GENERAL ELECTRIC

# Ector Test Now Most Interesting in West Texas; Eight Completions in the Panhandle Area

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Jan. 16.—Landreth Production Co.'s No. 1 Holt, the most interesting test in the West Texas district at present was drilling at 4,130 feet in gray lime today with no showings of oil. It is in Section 15, Block 43, Township 1n, T.&P. Survey, Ector County, 2½ miles northwest of the two Stanolind Oil & Gas Co. producers, the first of which topped the lime pay at 4,130 feet and the second at 4,120 feet. Whether the test is to make a producer and extend production will be known in a few days. At present it is not looking so favorable. Elevation is 3,083 feet, making total depth minus 1,023 feet, leaving it chances for making a producer.

Stanolind Oil & Gas Co.'s No. 1 Todd, unitized Ordovician test in Section 67, Block UV, G.C.&S.F. Survey, Crockett County, was drilling at 7,626 feet in hard gray lime with no showings of oil or gas.

Continental Oil Co.'s No. 1 Todd in Section 26, Block WX, G.C.&S.F. Survey, northwest of the Stanolind test, topped the shallow pay formation at 1,545-58 feet and filled 300 feet with oil. It bailed and swabbed 80 bbls. in 10 hours, and is now swabbing at the rate of 6 bbls. per hour, promising a small producer, thereby validating leases on the northern part of the company's block in this area. The same company's No. 1 Todd in Section 23 is fishing at 1,453 feet in lime. It has also encountered several small showings of gas and oil. Other tests in this area have shown oil and gas, but none has had the showings that No. 1 Todd in Section 26 has.

### Five Completions

There were five completions for the West Texas district during the week, two in the deep pay of the Big Lake Field, Reagan County; one in Glasscock County, and two in Ward County. There were four locations staked, one for a deep test in Tom Green County, one in Fisher County and three in Ward County.

### Jones County

The Shaheen Oil Co. of Abilene is preparing to drill a wildcat test in the center of a 161-acre tract on the Robinson land in Section 8, Block 7, 2 miles west of Luders in Jones County. The test will be located three-quarters of a mile northeast of Andy Urgan's producer and 2½ miles northwest of the King production in Shackelford County, and will make an interesting test for this part of the county.

### WICHITA FALLS

The Texas Company announced, effective 7 a.m. January 15, that the company will purchase the full allowable of all oil from wells with which it is connected in the Wichita Falls district. The company has only been taking six-sevenths of the oil, following a move several months ago when all purchasing companies elected to shut down Sundays and take only six-sevenths. The Continental Oil Co. and Stanolind Pipe Line Co. are the only two left taking six-sevenths. The Humble Oil & Refining Co. is taking only 75 per cent of the oil, according to its own requirements. This is its rule in all fields from which it takes oil.

### PANHANDLE

There were eight wells completed in the Panhandle district and two old wells recompleted, one being abandoned when deepening failed to increase production, but instead produced salt water. Five of the completions were in Gray County. There were only two locations reported, one in Gray County and one in Wheeler.

Some wells are now being treated with acid in this district in an effort to raise production. One well was reported to have reacted successfully.

### COMPLETIONS IN WEST TEXAS DISTRICT

#### Glasscock County

Empire Gas & Fuel Co.'s No. 1 Hall, top pay 2,085 feet, initial production 822 bbls. in 12 hours' pumping, total depth 2,110 feet.

#### Reagan County

Group Oil Corp. and Continental Oil Co.'s No. 5-B University, top pay 8,450 feet, initial production 967 bbls. and 3,500,000 feet of gas, 7-inch casing cemented at 8,370 feet with 1,000 sacks, total depth 8,483 feet. Big Lake Oil Co.'s No. 7-C University, top pay 8,116 feet and 8,275 feet, initial production 790 bbls. with 9,000,000 feet of gas, 7-inch casing cemented at 8,310 feet, total depth 8,825 feet.

#### Ward County

Barnsdall Oil Co.'s No. 4 Henry, top pay 2,542 feet, initial production 167 bbls., total depth 2,553 feet. Sturm and others' No. 3 Jones, top pay 2,429 feet, initial production 191 bbls., total depth 2,529 feet.

### COMPLETIONS IN PANHANDLE DISTRICT

#### Carson County

Skelly Oil Co.'s No. 20 West Schaffer, first gas at 2,705 feet, top pay 3,016-22 feet, initial production 546 bbls. on pump, total depth 3,113 feet; No. 21 West Schaffer, top pay 2,947 feet, initial production 180 bbls. on pump, total depth 3,150 feet. Texoma Natural Gas Co.'s No. 1-T Mineral Investing Corp., gas pay 2,535 feet, initial production 27,600,000 feet of gas, total depth 2,705 feet.

#### Gray County

Mid-Kansas Oil & Gas Co.'s No. 2 Webb, top pay 2,552 feet, shot with 90 quarts 2,552-2,600 feet, initial production 60 bbls. pumping, total depth 2,600 feet. Skelly Oil Co.'s No. 3 South Jackson, lost hole 2,970 feet. Tedesco Oil Co.'s No. 3 Morse, top pay 2,495 feet, shot with 300 quarts 2,495-2,590 feet, initial production 250 bbls. pumping, total depth 2,590 feet. The Texas Company's No. 2 Frashier, top pay 3,240 feet, initial production 108 bbls. pumping, total depth 3,305 feet; No. 4 Faulkner (old well drilled deeper), old total depth 2,875 feet, production before deepening 75 bbls., new total depth 2,924 feet, increase oil pay 2,915-24 feet, new production 120 bbls. pumping; No. 5 Patton (old well deepened), old total depth 3,000 feet, new total depth 3,160 feet, water at 3,025 feet, abandoned; No. 14 Williams, top pay 2,715 feet, initial production 210 bbls. pumping, total depth 2,656 feet.

#### Hutchinson County

Stansilvanian Oil Co.'s No. 3 Stansbury, top pay 2,975 feet, shot with 300 quarts 2,985-3,065 feet, initial production 100 bbls. on pump, total depth 3,075 feet.

## Wildcat Operations in West Texas

Week Ending January 16

| Company, well, farm name, section and block— | Remarks: |
|---|---|
| **BREWSTER COUNTY** | |
| Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur. | S.D. 1,935 ft. |
| E. L. Chapman's No. 1 Skinner, C SW SE Sec. 199, Blk. 2, G.C.&S.F. Sur. | S.D. 1,302 ft. |
| Jelkes et al. No. 1 McIntire, 553 ft. from S and 2,390 ft. from E. Sec. 31, Blk. 352, W. J. Mitchell Sur. | S.D. 500 ft. |
| Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 16, Blk. G-15, G.C.& S.F. Sur. | S.D. 2,900 ft. |
| Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles south Alpine | S.D. 1,750 ft. |
| **CONCHO COUNTY** | |
| Beasley et al's No. 1 Waring Estate, 400 ft. from N and E. Sec. 163, T.&N.O. Sur. | T.D. 2,586 ft.; pumping 5 bbls. oil per day and some water. |
| Simmons et al's No. 1 Schultz, 150 ft. from W and center N and S of E half of J. Weber Sur., Abst. 154. | S.D. 1,500 ft. |
| **CROCKETT COUNTY** | |
| Chambers et al's No. 1 Hoover, 1,650 ft. N and 330 ft. from E. Sec. 1, Blk. FF, B.&B. Sur. | S.D. 2,100 ft. |
| Continental Oil Co.'s No. 1 Todd, 660 ft. from S and E of Sec. 23, Blk. WX, G.C.&S.F. Sur. | Fishing 1,453 ft. |
| Continental Oil Co.'s No. 1 Todd, 1,640 ft. from S and 660 ft. from E, Sec. 26, Blk. WX, G.C.&S.F. Sur. | Top pay 1,545 ft.; T.D. 1,548 ft.; swabbing 6 bbls. per hour. |
| Doloman & Moore's No. 1 Ferner, 2,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur. | Spudded and S.D. |
| Stanolind Oil & Gas Co. et al's No. 1 Todd, 1,370 ft. from N and 1,320 ft. from E. Sec. 67, Blk. UV, G.C.&S.F. Sur. | Drlg. 7,626 ft. |
| The Texas Company's No. 1 B. B. Ingham, 330 ft. from S and 2,330 ft. from E line, Sec. 36½, I.&G.N. Sur. | T.D. 2,071 ft. |
| J. D. Young Co.'s No. 1 Shannon, 330 ft. from N and W, Sec. 35, Blk. 1, G.C.&S.F. Sur. | S.D. 1,747 ft. |
| **CULBERSON COUNTY** | |
| Harris & Haun's No. 1 fee | S.D. 2,670 ft. |
| Milton-Dorsey's No. 1 Biggs, 4,181 ft. from N and 150 ft. from E, Sec. 2, Blk. 112, P.S.L. Sur. | Location. |
| **ECTOR COUNTY** | |
| J. M. Cooper et al's No. 1 Cowden, 2,310 ft. from S and W, Sec. 16, Blk. 43, Twp. 2s, T.&P. Sur. | Location. |
| L. C. Harrison et al's No. 1 Addis, 330 ft. from N and 1,320 ft. from W, Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur. | S.D. 4,005 ft.; flowing around 600 bbls. daily. |
| Landreth Prod. Co.'s Holt, C SW of SE Sec. 15, Blk. 43, Twp. 1n, T.&P. Sur. | Drlg. 3,983 ft. |
| Stanolind O. & G. Co.'s No. 1 Cowden, 330 ft. from S and 1,320 ft. from W, Sec. 26, Blk. 43, Twp. 2s, T.&P. Sur. | Derrick. |
| Thomas et al's No. 1 Edwards, 330 ft. from S, 2,310 ft. from E. Sec. 38, Blk. 43, Twp. 3s, T.&P. Sur. | S.D. 1,950 ft. |
| H. F. Wurts' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW Sec. 16, Blk. 46, Twp. 3s, G. M. M.Br.&A. Sur. | S.D. 3,605 ft. |
| **EL PASO COUNTY** | |
| Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247 | S.D. 3,190 ft. |
| **FISHER COUNTY** | |
| Cranfill & Reynolds' No. 1 George, 400 ft. from N and 330 ft. from E. Sec. 200, Blk. 1, B.B.B.&C. Sur. | T.D. 6,078 ft.; pulling 6-in. csg. |
| O'Donnell's No. 1 Pardue, 330 ft. from S and E lines of N half of SW Sec. 202, B.B.B.&C. Sur. | Bldg. rig. |
| Southern Oil Co.'s No. 1 Beavers, 330 ft. from W and 660 ft. from S of S half of SW Sec. 193, B.B.B.&C. Sur. | Location. |
| Southern Oil Co.'s No. 1 Purdue, 990 ft. from S and E Sec. 202, Blk. B, B.B.&C. Sur. | T.D. 3,105 ft.; T.P. 3,105 ft.; showed water. |
| **GARZA COUNTY** | |
| Southern Oil Corp.'s No. 1 Boren, 990 ft. N, 660 ft. E. Sec. 36, Blk. 5, H.&G.N. Sur. | Machine. |
| **GLASSCOCK COUNTY** | |
| Lawson's No. 2-D Edwards, 330 ft. from S and W, Sec. 16, Blk. 33, Twp. 2s, T.&P. Sur. | Drlg. 1,120 ft. |

(Continued on Page 46)

## ROCKY MOUNTAIN RUNS

Average daily pipe line runs from fields in the Rocky Mountain territory for the week ending January 14 follow:

| | |
|---|---|
| **WYOMING** | |
| Salt Creek | 20,580 |
| Big Muddy | 1,590 |
| Badger Basin | 50 |
| Byron (East) | 40 |
| Dallas-Derby | 400 |
| Dutton Creek | 70 |
| Elk Basin | 560 |
| Ferris | 20 |
| Frannie | 370 |
| Grass Creek | 1,720 |
| Greybull | 10 |
| Hudson | 350 |
| LaBarge | 710 |
| Lance Creek | 100 |
| Lost Soldier | 2,190 |
| Mule Creek | 0 |
| Midway | 100 |
| Oregon Basin | 290 |
| Osage | 820 |
| Pilot Butte | 30 |
| Rock River | 1,300 |
| Poison Spider | 50 |
| Teapot | 30 |
| Total Wyoming | 31,380 |
| **MONTANA** | |
| Buckley-Border | 460 |
| Cat Creek | 800 |
| Cut Bank | 160 |
| Dry Creek | 50 |
| Kevin-Sunburst | 3,180 |
| Lake Basin | 50 |
| Pondera | 840 |
| Total Montana | 5,540 |
| **COLORADO** | |
| Florence | 270 |
| Fort Collins and Wellington | 750 |
| Iles Dome | 550 |
| Moffat | 670 |
| Orchard | 200 |
| Rangely | 100 |
| Tow Creek | 280 |
| Total Colorado | 2,820 |
| **NEW MEXICO** | |
| Artesia | 465 |
| Caprock | 416 |
| Hogback | 180 |
| Jal | 1,045 |
| Table Mesa | 70 |
| Eunice | 509 |
| Hobbs | 21,304 |
| Lea | 2,285 |
| Texas-Pacific | 96 |
| Rattlesnake | 680 |
| Total New Mexico | 27,050 |
| Total Rocky Mountain area | 66,790 |
| Total previous week | 66,311 |
| Difference | 479 |

# MAKING WINTER COUNT!

OVER the snow and ice and slush, the "Caterpillar" Tractor delivers the big loads as planned. Those broad, sharp-biting, sure-holding tracks eliminate wasteful slip to enforce steady drawbar power and to prevent costly delays in the schedule. And its muscles of heat-toughened steels—its effectively protected parts—fit this tractor for 12-month years!

Wintry weather—rainy weather—dry weather—it's all the same to the rugged, sure-treading "Caterpillar." That's why the petroleum industry depends upon the "Caterpillar" track-type Tractor to handle such a variety of heavy-duty jobs the year round *better, quicker, cheaper!*

**Caterpillar Tractor Co., Peoria, Ill., U.S.A.**
Track-type Tractors Combines Road Machinery
*(There's a "Caterpillar" Dealer Near You)*

*Prices—f. o. b. Peoria, Illinois*

| | | | |
|---|---|---|---|
| FIFTEEN | $1100 | THIRTY-FIVE | $2400 |
| TWENTY | $1450 | FIFTY | $3675 |
| TWENTY-FIVE | $1900 | SIXTY-FIVE | $3850 |
| DIESEL | $6500 | | |

**CATERPILLAR**
REG. U. S. PAT. OFF.
**TRACTOR**

## East Central Texas Wildcats

(Continued from Page 40)

E. & F. Oil Co.'s No. 2 M. Jackson, 330 ft. from S line and center of E and W lines of 16.66-ac. lease, G. F. Penn Sur. ..... Derrick.

Faith Oil Co.'s No. 4 J. C. Barrett, B. W. Witcher Sur. .. Derrick.

Lewis Godlin's No. 1 E. L. Walker, 330 ft. N of road, 330 ft. from E line of 80.2-ac. tract, M. Dillard Sur. .... Derrick.

Guinn Petroleum Co.'s No. 1 J. S. and F. Elder, 200 ft. NE of Solar's No. 1 Elder, and 450 ft. SE of Martin's No. 1 Elder, M. V. Winkle Sur. ..... Swabbing 3,593 ft.

P. L. Hoffman's No. 3 Phillips, 330 ft. from W line and center of N and S lines of lease, D. Ferguson Sur. ..... Rig up.

E. M. Jones' No. 1 L. D. Crim, 330 ft. from N line and center of E and W lines of 10-ac. tract, M. V. Winkle Sur. ..... Shut down.

Edwin Lacy's No. 2 fee, center of 1½-ac. tract, M. V. Winkle Sur. ..... Location.

J. M. Lapin's No. 1 fee, 437 ft. S and 324 ft. E of NE cor. of Humble's Knowles lease in 1.09-ac. tract, M. V. Winkle Sur. ..... Reaming to set csg.; T.D. 3,560 ft.

Jack T. Life's No. 1 B. Moore, center of 1.75-ac. lease, D. Moore Sur. ..... Derrick.

Lion Oil & Refining Co.'s No. 1 Evans, S offset to Sinclair Prairie's No. 10 Williams, P. McAnnelly Sur. .. Derrick.

Magnolia Petroleum Co.'s No. 6 J. Allen, 188 ft. from E line of lease and 307 ft. S of No. 4, G. W. Hooper Sur. ..... Waiting on cmt. to set; T.D. 3,425 ft.

Magnolia Petroleum Co.'s No. 3 J. H. Beavers, 318 ft. from N line and 272 ft. from E line of lease, T. R. Rains Sur. ..... Location.

Magnolia Petroleum Co.'s No. 4 C. Jones, 330 ft. from N and W lines of lease, G. W. Hooper Sur. ..... Location.

McGee et al's No. 3 M. O. Sheppard, offset to Showers & Moncrief's No. 1 Sheppard, G. R. Rains Sur. .... Derrick.

J. C. Means' No. 4 W. D. Luce, SW offset to Blue Star's No. 1-G, E. L. Walker Sur. ..... Derrick.

Monte Oil Co.'s No. 3 M. Finn, 60 ft. from N and E lines of lease, D. Ferguson Sur. ..... S.D. 300 ft.

Mullendore & Berry's No. 2 Barnswell, N offset to No. 1 Bramley, P. McAnnelly Sur. ..... Derrick.

National Securities Co.'s No. 2 J. A. Knowles, 200 ft. N of No. 1, M. V. Winkle Sur. ..... Set surface csg.

B. F. Phillips et al's No. 1 Church Lot, center of 75-ac. lease, D. Sanches Sur. ..... Bldg. derrick.

Quad Corp.'s No. 1 F. Duncan, 75 ft. SW of Blue Star's No. 6-A Sabine River, G. F. Penn Sur. ..... Drlg. 1,250 ft.

Rajo Oil Co.'s No. 3 Barrett, 378 ft. from N line and 330 ft. from W line of lease, B. W. Witcher Sur. .. Derrick.

Rhoades Drilling Co.'s No. 3 Sabine River (Tract No. 7), 2,510 ft. from E line and 2,390 ft. from W line ..... Set surface csg.

Sun Oil Co.'s No. 1 A. G. Morton, 1,200 ft. S of NW cor. and 306 ft. E of W line of lease, S. Baggett Sur. ..... Waiting on cmt. to set; T.D. 3,490 ft.

Sun Oil Co.'s No. 3 A. G. North, 318 ft. from W line of lease and 551 ft. from No. 1, S. Baggett Sur. .... Derrick.

L. W. Tarkington et al's No. 1 B. Robinson, 150 ft. from N and W lines of 48-ac. lease (old Atlantic & Pacific lease), S. S. Davis Sur. ..... Testing; T.D. 3,500 ft.

The Texas Company's No. 6 Phillips, 623 ft. W and 170 ft. S of NE cor. of 18-ac. lease, H. R. Hokit Sur. .... Derrick.

W. C. Turnbow's No. 3 McKinley, 135 ft. N and 420 ft. E of NE cor. of Yount Lee's Harley lease, D. Sanches Sur. ..... Derrick.

Universal Oil & Gas Co.'s No. 1 Adkins, 750 ft. S of No. 1, D. Dainwood Sur. ..... Waiting on cmt. to set 150 ft.

Y Oil Co.'s No. 2 A. M. Kinsel, 330 ft. from E line and center of N and S lines of lease, H. Kirk Sur. .. Running 6-in. drill stem; T.D. 3,661 ft.

### HENDERSON COUNTY

R. L. Green et al's No. 1 M. H. Gussett (old well drilled deeper), 150 ft. from N line and 1,000 ft. from W line of 106.5-ac. tract, 3 miles SW of Mabank, L. D. Stover Sur. ..... Coring 3,490-3,510 ft.

Dr. J. T. Kennon et al's No. 1 Rowe & Baker, 1,320 ft. from N line and 150 ft. from W line of survey and tract, Josiah T. Childress Sur. ..... S.D. 920 ft.

H. H. Meyer's No. 1 M. E. Olson, 2 miles S of Brownsboro tract in NW cor. of survey, George Wilson Sur. ..... Swabbed 3,748 ft.; show of dead oil.

### HILL COUNTY

T. J. Spikes' No. 1 M. H. Davis, 150 ft. from S and E lines of 55-ac. tract, H. R. Alexander Sur. ..... Shot with 14 qts. of glycerin; plugged back to 1,528 ft.; estimated 20 bbls.; waiting on orders.

### HOPKINS COUNTY

Burgess and Sinson's No. 1 First Natl. Bank, 470 ft. N and W of SE cor. D. Buie Sur., but located in the H.E.P.&P.R.R. Sur. ..... Drlg. 1,610 ft.

### HUNT COUNTY

A. Kelsey et al's No. 1 W. R. Berry, 450 ft. from S line and 300 ft. from E line of 139-ac. tract, J. Roads Sur. ..... Location.

### KAUFMAN COUNTY

Wiley-Bentley-Brewer et al's No. 1 J. B. Hunter, 300 ft. from S line and 150 ft. from SE line of 500-ac. tract, 4 miles S of Terrell, R. Sowell Sur. ..... Derrick.

### LAMAR COUNTY

Doyle and Jondeau's No. 1 Martin, 990 ft. from N line and 330 ft. from E line of tract, Joseph Deck Sur. ..... Rig up; T.D. 2,445 ft.

### LEON COUNTY

Alladay et al's No. 1 W. R. Thompson, 320 ft. from N line of survey and 330 ft. from E line of 98-ac. tract, N. M. Allen Sur. ..... S.D. 2,170 ft.

Shell-Penn & Black's No. 1 W. M. Phillips ..... Plugged back to 6,045 ft.; 7 ft. below csg; underreamed to 6,060 ft.; washed and swabbed to 1,500 ft.; salt water.

### LIMESTONE COUNTY

Miller Drilling Co. and Joiner's No. 1 J. A. Stephenson, 400 ft. from S line and 300 ft. from E line of lease, one-fourth mile SE of Kosse, Charles Welch Sur. .... S.D. 3,140 ft.

Grover Hart's No. 1 Walcott and Lott, 250 ft. from N line and 330 ft. from E line of survey, 3 miles S of Carson, B. A. Russell Sur. ..... S.D. 1,896 ft.

Joiner & Harris Drilling Co.'s No. 1 Clayton Brown, 1,625 ft. N. of most easterly SW cor. of survey, William M. Coffey Sur. ..... S.D. 1,550 ft.

Leonard's (Tucker-Fullwood) No. 1 P. M. Staggers, 450 ft. from N line and 150 ft. from E line of 65-5-ac. tract, J. D. Nelson Sur. ..... S.D. 3,679 ft.

### RED RIVER COUNTY

Ajo Oil Co.'s No. 1 Nickels & Daniels, center of S 780 acres of 1,508-ac. tract, 8 miles N of English, Hugh B. Shaw Sur. ..... Location.

Concord Oil Co.'s No. 1 J. R. Dallahunty, 500 ft. from N of Isaac Moore Sur. and 300 ft. E of E line of Robert Glass Sur. ..... S.D. 2,827 ft.

L. G. Priest's No. 1 R. W. Peck, 990 ft. N and 500 ft. S of southerly SE cor. of 220-ac. tract, A. Wagley Sur. ..... S.D. 1,302 ft.

### ROCKWALL COUNTY

Bucanner Oil Co.'s No. 1 H. L. Lofland, center of 69-ac. tract in W. M. Bird Sur. ..... Set 10-in. csg. 120 ft.

### RUSK COUNTY

G. S. Anderson's No. 5 Frederick, 300 ft. from S line of lease and midway between Nos. 2 and 3 and N offset to Lion's No. 2 Jobe, Juan Ximenes Sur. .. Derrick.

Arrow Drlg. Co.'s No. 1 I.&G.N.R.R., W. R. Cooke Sur. .. Rig up.

Indian Oil Co.'s No. 1 Joe Lee, 173 ft. from S line and 990 ft. from W line of 24-ac. lease, Peter Tipps Sur. ..... Swabbed through tubing showed some salt water; S.D. 3,644 ft.

Bodine et al's No. 1 G. W. Cooper, 1,760 ft. N and 330 ft. E of SW cor. of Ximenes Sur. ..... S.D. 3,593 ft.

T. E. Castle's No. 1 R. H. Gary estate, 3,960 ft. from N line and 5,280 ft. from W line of survey, 10 miles S of Henderson, A. Latham Sur. ..... S.D. 3,812 ft.

Crantill & Reynolds' No. 1 W. J. Weatherby, 1,400 ft. from E line and 7,200 ft. from S line of survey, Wade J. Walters Sur. ..... Drlg. 2,010 ft.

Fair & Thompson's No. 2 Bradford, 150 ft. from N and E lines of E 16.5-ac. lease, Juan Ximenes Sur. .... Bldg. derrick.

Farrell Drilling Co.'s No. 1 W. W. Hammett, 330 ft. from N and E lines of 160-ac. lease, Walker Pettit Sur. ..... Drlg. 3,303 ft.

Griffin & Barnes' No. 1 fee, 12 ft. from S and W lines of 2-ac. tract, J. B. De Cadena Sur. ..... Bldg. derrick.

Harris and Russell's No. 1 T. W. Harris, 330 ft. from S line and 660 ft. from W line of most southerly SW cor. of 160-ac. tract, 3 miles SW of Henderson, W. G. Davis Sur. ..... Derrick.

Hathaway et al's No. 1 Gray, J. M. McLain Sur. ..... S.D. 3,905 ft.

Gulf Production Co.'s No. 3 Elnora Cole, 330 ft. from N and E lines of lease, S. P. Hollingsworth Sur. .... Drlg. 2,055 ft.

H. B. W. Oil Co.'s No. 2 Redwine, 150 ft. from E line and center of Payne's No. 1 Redwine, Juan Ximenes Sur. ..... Derrick.

Hudson's No. 1 Jeff Phillips, 150 ft. from N line of survey and 640 ft. from W line of 100-ac. tract, 4 miles SE of Minden, Nepomucene Villareas Sur. .... S.D. 1,500 ft.

Humble Oil & Refining Co.'s No. 2 C. H. Hedge, 330 ft. from N and W lines of lease, J. C. Barnett Sur. ..... Derrick.

Humble Oil & Refining Co.'s No. 1 J. D. Taylor, 330 ft. from W line of lease and S offset to No. 1 Hedge ..... Derrick.

Humble Oil & Refining Co.'s No. 5 R. A. Barksdale, 906 ft. from N line and 565 ft. from E line of 76-ac. lease, S. P. Hollingsworth Sur. ..... Top sand 3,759 ft.; T.D. 3,792 ft.

Iotex Oil Co.'s No. 2 Tom Beall, W offset to Ward Oil Co.'s No. 2 Beall, P. W. Holmes Sur. ..... Derrick.

J. Jeagen's No. 1 Needham, 330 ft. from N line of lease and 330 ft. from NE and 400 ft. from SE of survey, J. H. Chambers Sur. ..... S.D. 1,414 ft.

Jenkins Bros.' No. 1 Daisy Bradford, 150 ft. from W line of 45-ac. tract, Juan Ximenes Sur. ..... Drlg. 2,565 ft.

Kimble & Acre's No. 1 Frederick, 150 ft. from S line and center of E and W lines of 10-ac. lease, Juan Ximenes Sur. ..... Derrick.

Lucy Petroleum Co.'s No. 4 D. B. Gill, 330 ft. from N and W lines of lease, W. A. Elliott Sur. ..... Derrick.

Olson Bros.' No. 5 J. T. Brown, 200 ft. from N line and 700 ft. from W line of lease, M. J. Pru Sur. .... Derrick.

Orr et al's No. 1 J. C. Hale, 590 ft. E and 330 ft. S of NW cor. of 50-ac. tract, M. V. Pena Sur. ..... T.D. 3,675 ft.

Overton Refining's No. 2 Maxwell, 70 ft. S of J. E. Oliver's No. 1 G. Pool, F. Cordova Sur. ..... S.D. 2,650 ft.

Paulett et al's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. ..... S.D. 1,468 ft.

R. O. Payne's No. 1 Redwine, 200 ft. from N and W lines of Lot No. 3, Juan Ximenes Sur. ..... Standing; T.D. 3,608 ft.

Sandifer et al's No. 1 L. J. Pinkston, S offset to Champlin and Bass' No. 1 Pinkston, J. B. De Cadena Sur. ..... Rig up.

Ross Seward's No. 1 Burton, J. J. T'Barbo Sur. ..... T.D. 2,387 ft.

Sibling & Williams' No. 2 Goforth, 467 ft. S of No. 2 and center of E and W lines of lease, J. Lindley Sur. ..... Rig up.

Smith and Sikes' No. 2 W. H. Frederick, 150 ft. from S and E lines of 10-ac. lease, Juan Ximenes Sur. .... Waiting on standard rig; T.D. 1,685 ft.

Snyder et al's No. 2 Stewart, 174 ft. NW of No. 1 and 190 ft. SE of C. L. Archer's No. 1 J. H. Stewart, John Womack Sur. ..... Derrick.

Stanolind Oil & Gas Co.'s No. 1 Bettie Coleman, 330 ft. from S and W lines of 320-ac. lease, James Burke Sur. ..... Coring 3,612 ft.; Pecan Gap 2,667-2,990 ft.; top Austin chalk 3,440 ft.

Stanolind Oil & Gas Co.'s No. 2 Bettie Coleman, 1,034 ft. from S line and 330 ft. from W line of lease, J. Burke Sur. ..... Location.

Sun Oil Co.'s No. 4 R. J. Hendon, 330 ft. from W line of lease and 933 ft. S of No. 3, Juan Ximenes Sur. .. Set csg.; T.D. 3,584 ft.

Sun Oil Co.'s No. 5 R. J. Hendon, 330 ft. from N and E lines of 120-ac. lease, Juan Ximenes Sur. ..... Derrick.

Trico Oil Co.'s No. 1 D. Bradford, 200 ft. N of highway and 150 ft. W of most westerly creek, Juan Ximenes Sur. ..... Bldg. derrick.

### SMITH COUNTY

McCullough Oil Co.'s No. 2 Church, 100 ft. from S line and center of E and W lines of lease, J. Jordan Sur. ..... Drlg. 3,210 ft.

McRable et al's No. 1 C. P. Hamilton, 330 ft. from S and E lines of 255-ac. tract, Jackson Rector Sur. .. Rig up and S.D.

Mundt et al's No. 1 W. E. Murray, 330 ft. from S and E lines of lease, 5 miles SE of Tyler, Marshall Wynn Sur. ..... Fishing; T.D. 4,875 ft.

M. M. Rowan et al's No. 1 Gibbons Mfg. Co., 5,900 ft. from S line and 4,950 ft. from W line of survey .... Moving in rig; T.D. 3,610 ft.

Sinclair Prairie Oil Co.'s No. 6 Patterson, 330 ft. from N and W lines of lease, J. Vargas Sur. ..... Temp. abnd.; T.D. 3,753 ft.

### TITUS COUNTY

Perry V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. ..... T.D. 4,212 ft.

### UPSHUR COUNTY

Creighton Drilling Co.'s No. 2 Hargraves, 330 ft. from S line of lease and 660 ft. W of No. 1, M. Mann Sur. ..... S.D. 3,743 ft.

H. W. Elliott et al's No. 1 W. H. Reid, 435 ft. from S and W lines of E 39 acres of 54-ac. lease, Marshall Mann Sur. ..... Set csg.; S.D. 3,682 ft.

F. A. Fuller et al's No. 1 Shattesworth, 330 ft. from S and E lines of W 50 acres of 100-ac. tract, James Dunn Sur. ..... Drlg. 1,700 ft.

Pat Hudson et al's No. 1 D. F. Smith, 330 ft. out of SE cor. of W 100 acres of the N 200 acres of the 272-ac. lease, 3 miles E and 1½ miles N of Cranfill & Reynolds' No. 1 Rash, John Denson Sur. ..... Waiting orders 3,710 ft.

Lynch and McQuiag's No. 1 L. T. Mackey, 330 ft. from S line of road and 230 ft. from E line of road, Sarah Harrell Sur. ..... Testing; T.D. 3,711 ft.

Magnolia Petroleum Co.'s No. 9 H. Hampton, 330 ft. from S line of lease and 791 ft. E of No. 6, D. Ferguson Sur. ..... Waiting on cmt. to set; T.D. 3,646 ft.

George Pace et al's No. 1 D. C. Shelton, N offset to C. L. Brown's No. 1 D. C. Shelton, William King Sur. ..... Derrick.

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## IRON *and* STEEL GATE VALVES

L. B. Pruitt's No. 1 B. F. Phillips, 150 ft. N and 230 ft. W of most southerly SE cor. of 81.6-ac. tract, William Goodwin Sur. ..... Derrick.
Taubel & Lyons' No. 1 W. H. Duffy, 330 ft. from N and E lines of NW 50-ac. tract, Starr Sur. ..... Drlg. 2,000 ft.
Travis & Weir's No. 1 L. P. League, 330 ft. from N line and 330 ft. from W line of N 18 acres of L. P. League Sur. ..... Derrick.
Wadley and Evans' No. 1 W. S. Jones, 330 ft. from S and E lines of 100-ac. lease, James M. Dunn Sur. ... Top sand 3,671 ft.; T.D. 3,690 ft.
Wadley & Lyons' No. 1 Hall, 150 ft. out of NW cor. of H. E. Hall 14-ac. tract, William McKey Sur. .... T.D. 3,560 ft.
Waggoner et al's No. 2 Williams, center of 5-ac. lease, McKinley and Williams Sur. ..... Coring 3,699 ft.
Watson's (formerly Kinsey) No. 1 D. F. Smith, 466 ft. from S line and 1,165 ft. from E line of 266-ac. tract, J. R. Davis Sur. ..... S.D. 1,856 ft.
J. E. Warby's No. 3 Read, 330 ft. from S line of lease and 490 ft. W of No. 1 T. Hopkins Sur. ..... Set surface csg.; T.D. 109 ft.

VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 235-ac. tract, 3¼ miles S of Canton, M. J. De Cadena Sur. ..... S.D. 3,355 ft.
Kelly O. & G. Co.'s No. 1 Lemaford, center of Lemaford tract, John Conner Sur. ..... S.D. 2,300 ft.
Killum & Chisum's No. 1 N. E. Clark, 165 ft. out of most westerly NW cor. of tract, 2 miles S of Van, Jackson Thomas Sur. ..... Temp. abnd. 3,036 ft.
Killum & Chisum's No. 1 J. J. Goode, 150 ft. from N line and 375 ft. from E line of lease, 5 miles SW of Van, David Rose Sur. ..... Derrick.
Lyman et al's No. 1 J. C. Stewart, 150 ft. from N line and 650 ft. from W line of 90-ac. tract, A. McPhail Sur. ..... T.D. 2,731 ft.
Peden-Olson's No. 1 W. S. Brannon, 205 ft. from N and 160 ft. from W lines of 45-ac. tract, 2½ miles N of John Goodman Sur. ..... Drlg. 550 ft.
Pure Oil Co.'s No. 6 O. L. L. Swain, 250 ft. N of S line and 250 ft. W of E line of 40.7-ac. tract, John Walling Sur. ..... Coring 2,890 ft.
Pure Oil Co.'s No. 4 B. W. Russell, 150 ft. S of N line and 225 ft. W of E line of 30-ac. tract, David Rose Sur. ..... Drlg. 2,782 ft.
A. C. Rowan's No. 1 W. E. Price, 150 ft. from N line and 150 ft. from W line of 28-ac. tract, John Walling Sur. ..... S.D. 3,942 ft.
Roy Stumpff's No. 1 M. I. Riggs, 169 ft. from E line and 250 ft. from S line of tract No. 2 and 330 ft. from E line of lease, 4 miles NE of Van, William Daniel Sur. ..... Rig up and S.D.
H. C. Teague et al's No. 1 C. W. Morris, 1,000 ft. from N line and 300 ft. from E line of 160-ac. tract, 5 miles SE of Ben Wheeler, C. L. Morrison Sur. .... Cleaning out; T.D. 3,097 ft.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. ..... T.D. 2,850 ft.
C. O. Weir's No. 1 W. B. Tunnell, 150 ft. from N and W lines of lease, A. H. Wiley Sur. ..... T.D. 2,003 ft.

WOOD COUNTY

De Canther's No. 1 N. L. McLain, 350 ft. from N line and 642 ft. from E line of tract, Sam Brooks Sur. .... S.D. 3,825 ft.
Hull & Short's No. 1 T. H. Peterson, 600 ft. from S line and 300 ft. from E line of 320-ac. tract and survey, 4 miles E of Mineola, W. B. McNutt Sur. ..... T.D. 2,810 ft.
Sinclair Prairie Oil Co.'s No. 1 M. R. Sayner, 329 ft. from N and W lines of Blk. No. 19, one-half mile N of Elberta, J. M. Chandler Sur. ..... S.D. 4,379 ft.
Talko Oil Co.'s No. 1 G. T. Ross, B. L. Smith Sur. ..... S.D. 3,840 ft.
Wood County Dev. Co.'s No. 1 Davis, approximately 150 ft. from S line of 160-ac. tract and 2½ miles S of Kantes in Sarah McDonald Sur. ..... Drlg. 4,328 ft.

## Wildcat Operations in West Texas

(Continued from Page 42)

Llano Oil & Dev. Co.'s No. 1 Edwards, 330 ft. S and E, Sec. 17, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 1,167 ft.
Phillips Pet. Co.'s No. 2 Baker, 338 ft. from N and 3,305 ft. from E, Sec. 31, Blk. 33 ..... Reaming 2,080 ft.

HOWARD COUNTY

F.H.E. Oil Co.'s No. 1 Dodge, 330 ft. from N and E, Sec. 15, Blk. 31, Twp. 1s, T.&P. Sur. ..... Drlg. 1,110 ft.
Harrison et al's No. 2 Denman, 2,310 ft. from N and 330 ft. from E, Sec. 10, Blk. 30 ..... T.D. 2,858 ft.; shot 500 qts. from 2,683-2,847 ft.; flowed 247 bbls. first 24 hrs.
James et al's No. 3 Chalk, 946 ft. from S and 180 ft. from E of NE Sec. 114, Blk. 29, W.&N.W. Sur. ..... Top pay 1,164 ft.; T.D. 1,165 ft.; putting on pump.
Myers et al's No. 1 Denman, 2,305 ft. from S and 2,320 ft. from E, Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. ..... T.D. 1,560 ft.
Mid-Continent Oil & Gas Co.'s No. 1 Denman, 990 ft. from S and 330 ft. from E, Sec. 10, Blk. 30, Twp. 1s, T.&P. Sur. ..... T.D. 2,813 ft; putting on pump.
Sinclair Prairie Oil Co.'s No. 3 Dodge, 1,650 ft. from S and 420 ft. from W, Sec. 11, Blk. 30, Twp. 1s, T.&P. .. S.D. 2,800 ft.; no pumping gauge.
Sinclair Prairie Oil Co.'s No. 4 Dodge, 960 ft. from S and 330 ft. from W, Sec. 11, Blk. 30, Twp. 2s, T.&P. Sur. ..... Drlg. 1,575 ft.
Southern Oil Corp.'s No. 1 Williams, 440 ft. from N and 330 ft. from W of S 132 acres of W half Sec. 43, Blk. 30, Twp. 1n, T.&P. Sur. ..... Rigging up.

HUDSPETH COUNTY

Patillo-Welsh's No. 1 Briggs ..... S.D. 1,135 ft.; may plug.

IRION COUNTY

Bristow et al's No. 2 Nutt, 2,550 ft. N, 1,000 ft. W, Sec. 6, Gonsales County School Lands Sur. ..... Spudded and S.D.
Straughn et al's No. 1 Kaiser, 1,920 ft. from N and 1,390 ft. from W, Sec. 69, H. Cooper Sur. ..... S.D. 775 ft.

JONES COUNTY

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-ac. tract in G. Martinez Sur. .... S.D. 1,095 ft.; temp. abnd.
Croft et al's No. 2 Swann, 4,250 ft. from S and 1,700 ft. from E. I. Miley Sur. No. 280 ..... Drlg. 2,550 ft.; show oil 2,542 ft.
Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur. ..... Rig.
Johnson's No. 1 Huddleston, 165 ft. from S and W of N half of N half of Sec. 35, Blk. 18, T.&P. Sur. ..... T.D. 2,390 ft.; trying to mud 8-in. csg.
Smart & Reynold's No. 1 Reynolds, 2,500 ft. from N and 150 ft. from W, Sec. 2, W. T. Scott Sur. No. 3 ... S.D. 1,400 ft.
C. S. Spelling et al's No. 1 Lillie, 200 ft. from N and W Sec. 4, E. Miller Sur. No. 2 ..... S.D. 2,030 ft.
Southern Oil Co.'s No. 1 Swann, 1,000 ft. from E and 900 ft. from S. of I. Miley Sur. ..... Spudded and S.D.
Young et al's No. 1 Harrell, 150 ft. from S and E of N half of Sec. 8, O.A.L. Sur. ..... Location.

LOVING COUNTY

A. & M. Pet. Corp.'s No. 1 Wheat, 2,310 ft. SW, 990 ft. SE, Sec. 71, Blk. 1, W.&N.W. Sur. ..... Cellar.
Goldman et al's No. 1 Allen, 330 ft. from NE and NW of Sec. 90, Blk. 1, W.&N.W. Sur. ..... T.D. 4,373 ft.; swabbing and cleaning out.
Eppenauer Drlg. Co.'s No. 1-A Victor, 330 ft. from SW and 338 ft. from SE of NW of N half Sec. 4, Blk. 2, W.&N.W. Sur. ..... Material on ground.
Goldman et al's No. 2 Allen, 330 ft. from NW, 2,310 ft. from SW, Sec. 90, Blk. 1, W.&N.W. Sur. ..... Shut down.
Goldman et al's No. 1 Reagan-McElvain, 330 ft. from NE, 2,310 ft. from NW, Sec. 84, Blk. 1, W.&N.W. Sur. .. Shut down.
Lewis & Siegel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W, Sec. 6, Blk. 56, Twp. 1, T.&P. Sur. ... S.D. 2,280 ft.
Martin et al's No. 1 Wheat, 990 ft. from SW and SE, Sec. 83, Blk. 1, W.&N.W. Sur. ..... S.D. 4,007 ft.
Martin's No. 2 Freels, 4,175 ft. from NE and 412 ft. from NW, Sec. 92, Blk. 1, W.&N.W. Sur. ..... Drlg. 4,250 ft.
Miller et al's No. 1 Ferguson, 990 ft. from NE of Sec. 44, Blk. 29 ..... Spudded and S.D.
Thomas' No. 1 Wheat, 2,310 ft. from NW, 990 ft. from NE, Sec. 83, Blk. 1, W.&N.W. Sur. ..... Drlg. 4,072 ft.

PECOS COUNTY

Cardinal Oil Co.'s No. 3-G Tippett, 660 ft. from S and 330 ft. from E of No. 2 Tippett, Sec. 61, Blk. 194, G.C.&S.F. Sur. ..... T.D. 302 ft.
Cardinal Oil Co.'s No. 15-E Tippett, 330 ft. N and W of center of Sec. 40, Blk. 194, G.C.&S.F. Sur. ..... T.D. 575 ft.; putting on pump.
Cardinal Oil Co.'s No. 16 E. Tippett, 5,300 ft. from S and 150 ft. from W of E half of W half Sec. 40, Blk. 194, G.C.&S.F. Sur. ..... Location.
Cooper et al's No. 1 Perry, 1,980 ft. N and W, Sec. 15, Blk. C-4, G.C.&S.F. Sur. ..... Drlg. 802 ft.
Corvette Oil Corp.'s No. 8 H. Monroe, 1,040 ft. from E line and 150 ft. from N line of Sec. 39, G.C.&S.F. Sur., Blk. 194 ..... Location.
Massey's No. 1 Iowa Realty Trust, 150 ft. from NE and 1,483 ft. from NW, Sec. 21, Blk. 10, H.&G.N. Sur. .... Drlg. 420 ft.
Messinger et al's No. 1 Jones, 1,200 ft. from NW, 1,200 ft. from SW, Sec. 5, Blk. 9, H.&G.N. Sur. ..... Drlg. 975 ft.
Stanolind Oil & Gas Co. et al's No. 2 Tippett, 5,300 ft. from S and 150 ft. from E of W half of W half, Sec. 40 ..... Location.
Winfield et al's No. 1 Eaton, 1,170 ft. from NE and 2,490 ft. from SE, Sec. 35, Blk. 3, H.&T.C. Sur. ..... T.D. 750 ft.; underreaming 8¼-in. csg.

PRESIDIO COUNTY

Sadler et al's No. 1 Bledsoe, 2,640 ft. from N and W Sec. 15, Blk. 354, G.C.&S.F. Sur. ..... S.D. 328 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 1-C University ..... S.D. 9,562 ft.
Big Lake Oil Co.'s No. 8-C University, 710 ft. from S and 2,410 ft. from E, Sec. 12, Blk. 2 ..... Drlg. 6,760 ft.
Big Lake Oil Co.'s No. 9-C University, 2,410 ft. from N and 765 ft. from E, Sec. 12, Blk. 2 ..... S.D. 3,716 ft.
Big Lake Oil Co.'s No. 131 University, 1,760 ft. from S and 2,000 ft. from W, Sec. 10, Blk. 2 ..... S.D. 2,800 ft.
Continental Oil Co.'s No. 6-B University, 765 ft. from N and 1,980 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 6,356 ft.
Continental Oil Co.'s No. 7-B University, 1,980 ft. from N and 650 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 1,575 ft.
Continental Oil Co.'s No. 8-B University, 1,200 ft. from S and 1,775 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 800 ft.
J. P. Williams et al's No. 1 Scott, 1,650 ft. from N and 330 ft. from W, Sec. 179, Blk. 1, T.&P. Sur. ..... Spudded and S.D.

REEVES COUNTY

Cordova Union Oil Co. et al's No. 1 Wright, 1,320 ft. from S and W, Sec. 58, Cassell's Sur. ..... S.D. 1,730 ft.
McDorman et al's No. 1 Ray Roberts et al, 2,310 ft. from S and E lines of Sec. 22, Blk. 59, P.S.L. Sur. .... S.D. 2,025 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 ..... S.O. 3,417-20 ft.; S.D. 3,600 ft.
John Castor's No. 1 Hall, 330 ft. from S and W, Sec. 149, E.T.R.R. Sur. ..... Spudded.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... T.D. 5,410 ft.; fishing.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,302 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... Drlg. 5,775 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,320 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... S.D. 5,053 ft.

SCURRY COUNTY

G. E. Dickman et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... S.D. 5,100 ft.
W. S. Guthrie's No. 1 Clarkson, 1,320 ft. from S and W, Sec. 243, Blk. 97, H.&T.C. Sur. ..... Drlg. 1,826 ft.
Heinzleman et al's No. 1 Hood, 436 ft. from N and 459 ft. from E, Sec. 87, Blk. 3, H.&T.C. Sur. ..... S.D. 990 ft.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W, Sec. 68, Blk. 3, H.&G.N. Sur. ..... Spudded and S.D.
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... S.D. 4,992 ft.

TAYLOR COUNTY

Urban's No. 1 Blair, 1,500 ft. from S and 150 ft. from W of NE 193 varas Guadalupe County School Lands, Lot 21 ..... Drlg. 1,832 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M-K-T Sur. ..... S.D. 2,269 ft.
Briggs & McPhee's No. 1 Kerr, 1,500 ft. E and 750 ft. S of NW cor. Sec. 18, Blk. 5-D, M.K.&T. Sur. ..... T.D. 500 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... S.D. 3,150 ft.
Miller Bros.' No. 1 Allison & Burke, C NW Sec. 10, Blk. 176, T.&P. Sur. ..... S.D. 120 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F. Sur. S.D. 6,120 ft.
Jones et al's No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... S.D. 2,545 ft.
Sides et al's No. 1 Phelps, 2,157 ft. from N and 2,482 ft. from W, Sec. 5, G. W. Hurley Sur. ..... S.D. 3,525 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Norsworthy, 1,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... S.D. 760 ft.; S.O. and gas 725 ft.
Hancock et al's No. 1 Reed, 330 ft. N and 1,670 ft. W of SW cor. of C. Schoner Sur. but in Mason & Perry Subd. No. 59 ..... Location.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 130, Dist. No. 11, S.P. Sur. .... S.D. 1,994 ft.
Pratt & Hancock's No. 2 Lewis, 100 ft. N and 320 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... S.D. 200 ft.

UPTON COUNTY

Clark-Cooper's No. 1 Lane, 2,310 ft. from N and 990 ft. from E, Sec. 36, Blk. 1, M-K-T Sur. ..... S.D. 2,270 ft.; swabbing and cleaning out.
Gulf Prod. Co.'s No. 102 McElroy, 1,320 ft. from S and W, Sec. 189, Blk. F, C.C.S.D.&R.G.N.G. Sur. ..... Rigged up.
White's No. 1 Lane, 2,310 ft. from S and 990 ft. from E Sec. 36, Blk. 1, M-K-T Sur. ..... S.D. 2,355 ft; plugging.

VAL VERDE COUNTY

Couch et al's No. 1 J. P. Yoas, 1,300 ft. from the N line and E line of Sec. 31, Blk. 1, I.&G.N. Sur. ..... S.D. 400 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,136 ft. ..... S.D. 6,780 ft.

WARD COUNTY

Abell Bros.' No. 2 Sloan, 990 ft. from NE and NW, Sec. 24, Blk. 5, H.&T.C. Sur. ..... Cellar.
Abell Bros.' No. 1 Hayzlett, 1,650 ft. from NW and 1,320 ft. from SW, Sec. 3, Blk. 5, H.&T.C. Sur. ..... S.D. 2,480 ft.
Atlantic Oil Prod. Co.'s No. 1 University, 330 ft. S and E, Sec. 3, Blk. 16 ..... Drlg. 2,078 ft.
Atlantic Oil Prod. Co.'s No. 1 Blank-Camp, 1,320 ft. from NW and SW Sec. 14, Blk. 34, H.&T.C. Sur. ..... T.D. 2,482 ft.; fishing.

**Atlantic Oil Prod. Co.'s No. 1 Jones, 330 ft. from SW and 1,650 ft. from SE, Sec. 25, Blk. B-29, P.S.L. Sur.**—S.D. 2,067 ft.

Bentley et al's No. 1 Carson, 1,650 ft. from NE and SE Sec. 26, Blk. 5, H.&T.C. Sur.—Drlg. 2,100 ft.

Bradford's No. 1 Carson, 1,650 ft. from SE and 990 ft. from NE Sec. 26—Running 8¼-in. csg.

Bradford's No. 1 Beatty, 1,650 ft. from NW and 330 ft. from SW, Sec. 3, Blk. 34, H.&T.C. Sur.—Location.

Bundy et al's No. 1 Bennett, 2,310 ft. from NW and SW Sec. 16, Blk. 34, H.&T.C. Sur.—S.D. 2,449 ft.; no oil in hole.

Eastland Oil Co. et al's No. 1 Grimes, 445 ft. from NE and 1,320 ft. from SE Sec. 14, Blk. 34, H.&T.C. Sur.—T.D. 2,480 ft.; flowing 17 bbls. per day.

**Eastland Oil Co.'s No. 2 Grimes, 495 ft. from NE and 440 ft. from SE, Sec. 14, Blk. 34, H.&T.C. Sur.**—**Location.**

Eastland Oil Co.'s No. 3 Weiss, 954 ft. from NW and 284 ft. from NE of Sec. 4, Blk. 34—S.D. 2,385 ft.; est. 150 bbls. of oil per day.

Eppenauer's No. 1 Purcell, 365 ft. from SW and 1,650 ft. from SE of Sec. 17, Blk. 14, H.&T.C. Sur.—T.D. 2,740 ft.

Eppenauer Drlg. Co.'s No. 1 University, 330 ft. from N and 440 ft. from E of S half of Blk. 16—Material on ground.

Gerber O. & G. Co.'s No. 1 Stubbs, 330 ft. from S, 990 ft. from W, Sec. 9, Blk. 3, B.&B. Sur.—Cellar.

H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW, Sec. 12, Blk. 5, H.&T.C. Sur.—S.D. 2,223 ft.

Gulf Prod. Co.'s No. 14 Hutchings, 330 ft. from N and W of Sec. 9, Blk. O—T.D. 2,625 ft.; running 5 3/16-in. csg.

Gulf Prod. Co.'s No. 15 Hutchings, 1,932 ft. from S and 990 ft. from W, Sec. 5, Blk. F—Drlg. 2,556 ft.; 1,200 ft. oil in hole.

Gulf Prod. Co.'s No. 23 O'Brien, 330 ft. from N and 990 ft. from E Sec. 15, Blk. F—S.D. 2,715 ft.

Gulf Prod. Co.'s No. 25 O'Brien, 330 ft. from N and W Sec. 20, Blk. F—S.D. 2,756 ft.; salt water at 2,753 ft.

Gulf Prod. Co.'s No. 26 O'Brien, 3,347 ft. N, 330 ft. E. Sec. 16, Blk. F—Drlg. 1,172 ft.

Kregie et al's No. 1 Keasler, 3,062 ft. from SE, 330 ft. from NE, Sec. 46, Blk. 34, H.&T.C. Sur.—S.D. 2,000 ft; plugged back to 1,452 ft; fishing.

Magnolia Pet. Co.'s No. 1 Brillhart, 2,310 ft. from NW and SW, Sec. 13, Blk. 34, H.&T.C. Sur.—Fishing 1,835 ft.

**Maxwell's No. 1 Smith, 330 ft. from NW and SW, Sec. 26, Blk. 34, H.&T.C. Sur.**—Drlg. 2,300 ft.

R. F. Owen's No. 1 Lee, 1,344 ft. from NW and 4,532 ft. from SW, Sec. 1, J. Howe Sur.—S.D. 2,720 ft.; plugging.

Penn Oil Co.'s No. 1 Hardage-Wilson, 330 ft. from NE and SE Sec. 11, Blk. 34, H.&T.C. Sur.—Fishing 2,465 ft.

Prince Bros.' No. 2 Hall-Roberts, 1,470 ft. from NE and 2,200 ft. from NW, Sec. 14, Blk. 34, H.&T.C. Sur.—Location.

Rector Oil Co.'s No. 1 Monroe, 660 ft. from NE and SE, Sec. 62, Blk. 33, H.&T.C. Sur.—S.D. 3,927 ft.

Rixford-Fuglarr's No. 1 London, 660 ft. NW, 330 ft. NE E cor. Sec. 10, Blk. 32, H.&T.C. Sur., but in Sec. 8—S.D. 2,291 ft.

Rowan & Nichols' No. 1 Street, 990 ft. from SE and 330 ft. from NE, Sec. 17, Blk. 34, H.&T.C. Sur.—Location.

Skelly Oil Co.'s No. 1 Brillhart, 2,310 ft. from NW and NE, Sec. 12, Blk. 34, H.&T.C. Sur.—S.D. 2,416 ft.

Southern Oil Co.'s No. 1 Sloan, 1,650 ft. from NE and 330 ft. from NW, Sec. 24, Blk. 5, H.&T.C. Sur.—Drlg. 675 ft.

Stanolind Oil & Gas Co.'s No. 1 Whitlock, 495 ft. NE, 2,200 ft. SE, Sec. 14, Blk. 34, H.&T.C. Sur.—T.D. 2,515 ft.; 100 ft. oil and 90 ft. water in 16 hrs.

Sturm et al's No. 4 Jones, 2,310 ft. from SW and 990 ft. from SE Sec. 25, Blk. B-29, P.S.L. Sur.—To test 2,546 ft.

T. F. Coal & Oil Co.'s No. 7 James, 1,320 ft. from SW and SE, Sec. 5, Blk. 34, H.&T.C. Sur.—Drlg. 1,090 ft.

Thompson's No. 1 Johnson, 2,310 ft. from SW and 330 ft. from NW, Sec. 9, Blk. 34, H.&T.C. Sur.—Drlg. 2,351 ft. by tools.

Zoch et al's No. 1 Brillhart, 2,310 ft. from SE and SW, Sec. 13, Blk. 34, H.&T.C. Sur.—T.D. 2,512 ft.; show oil 2,469-85 ft.; production est. 35 bbls. oil, 500,000 ft. gas.

### WINKLER COUNTY

Colonial Oil Co.'s No. 1 State vacancy, 330 ft. E and 103 ft. N of NW cor. Sec. 2, Blk. 77, P.S.L. Sur.—Drlg. 220 ft.

Richardson et al's Scarborough, 990 ft. from N and W Sec. 1, Blk. 77—S.D. 3,002 ft.

Richardson et al's No. 1-B Scarborough, 990 ft. from S and 1,980 ft. from E, Sec. 18, Blk. 74, P.S.L. Sur.—Drlg. 2,588 ft.

Richardson et al's No. 2 Scarborough, 1,980 ft. from N and 660 ft. from E. Sec. 1, Blk. 77, P.S.L. Sur.—S.D. 2,830 ft.; est. 150 bbls. per day.

## Wildcat Operations in Texas Panhandle

**Week Ending January 16**

### CARSON COUNTY

| Company, well, farm name, section and block— | Remarks: |
|---|---|
| Gulf Prod. Co.'s No. 6 Cooper, 330 ft. from N and W SW, Sec. 4, Blk. 9, I.&G.N. Sur. | S.D. 3,075 ft.; T.P. 3,035 ft.; to pump; shot and swabbed 416 bbls. first 15 hrs. after shot. |
| Panhandle Rfg. Co.'s No. 1 Kirby, 1,320 ft. N and W, Sec. 183, Blk. 2, I.&G.N. Sur. | S.D. 650 ft; csg. parted. |
| Sinclair Prairie Oil Co.'s No. 1 Cooper, 330 ft. from S and W, Sec. 4, Blk. 9, I.&G.N. Sur. | T.D. 3,115 ft; C.O. |
| Texas Interstate P. L. Co.'s No. 1 Burnett, 1,333 ft. N, 2,675 ft. E of N½ Sec. 97, Blk. 5, I.&G.N. Sur. | Rig. |
| Union Pet. Co.'s No. 3 Cooper, 330 ft. N, 310 ft. E SE, Sec. 5, Blk. 9, I.&G.N. Sur. | Cellar. |

### CHILDRESS COUNTY

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| Robertson's No. 1 Biddy, center S 26½ acres of N, Laughlin Sur. Blk. T | Rig. |

### COLLINGSWORTH COUNTY

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| Cochran Bros.' No. 1 Atkinson, 660 ft. from N and E, Sec. 26, Blk. 21, H.&G.N. Sur. | S.D. 300 ft. |
| Kates et al's No. 1 Hickman, center NE, Sec. 43, Blk. 10, H.&G.N. Sur. | S.D. 2,275 ft. |
| Kates et al's No. 1 Bell, 200 ft. from N, 2,310 ft. from W, Sec. 21, Blk. 102, H.&G.N. Sur. | S.D. 2,703 ft.; elevation 2,265 ft. |

### COTTLE COUNTY

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| Darby Pet. Co. et al's No. 1 Puersil, 330 ft. from N, 1,320 ft. from E. Sec. 40, Blk. B, John H. Stevens Sur. | Drlg. 4,622 ft. |

### DEAF SMITH COUNTY

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| Western Union Oil Co.'s No. 1 Farwell, C NW, Sec. 18-3n-2e | S.D. 1,240 ft. |

### GRAY COUNTY

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| Back & Barber's No. 1 Back, 660 ft. from S, 330 ft. from W, Sec. 140, Blk. 25, H.&G.N. Sur. | S.D. 2,428 ft. |
| Baldridge et al's No. 1 Melton, 330 ft. from NE E half NE, Sec. 95, Blk. B-2, H.&G.N. Sur. | S.D. 3,075 ft.; T.P. 3,013 ft.; 40 bbls. daily; to test. |
| Baldridge et al's No. 1 Catlin, 330 ft. S and E of E 80 of 153-ac. tract, Sec. 57, Blk. 3, I.&G.N. Sur. | U.R. csg. 2,360 ft. |
| Baldridge O. Co.'s No. 1-B Melton, 330 ft. from N and E of SW, Sec. 95, Blk. B-2, H.&G.N. Sur. | S.D. 1,700 ft. |
| Bell O. & G. Co.'s No. 2 Tedesco Webb, 330 ft. S and W, Sec. 61, Blk. 25, H.&G.N. Sur. | U.R. 8¼-in. csg. 1,730 ft. |
| Boyes et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur. | S.D. 2,554 ft.; shot. 50 qts.; no results. |
| Gerdan Burch's No. 1 Laugham, 990 ft. S, 330 ft. E Sec. 1, W½ NE, Sec. 1, Blk. B-2, H.&G.N. Sur. | U.R. csg. 1,654 ft. |
| Cantone Oil Co.'s No. 2 Morse, 330 ft. from N, 330 ft. from E line, Blk. 9-A, Sec. 15, H.&G.N. Sur. | Location. |
| Christy's No. 1 Gethings, 330 ft. from N and E, Sec. 12, Blk. A-9, H.&G.N. Sur. | S.D. 1,760 ft. |
| Sam Danner's No. 1 Cobb, 330 ft. S and W NE, Sec. 165, Blk. 3, I.&G.N. Sur. | S.D. 550 ft. |
| Dolomite Prod. Co.'s No. 1 Sailor, 330 ft. N and E, Sec. 111, Blk. 3, I.&G.N. Sur. | Drlg. 932 ft. |
| Gerber O. & G. Co.'s No. 1 Stubbs, 330 ft. from S, 990 ft. from W, Sec. 9, Blk. 3, B.&B. Sur. | Rig. |
| Gray County Prod. Co.'s No. 1 Huseiby, 330 ft. from S and W, E½ NW, Sec. 55, Blk. 25, H.&G.N. Sur. | S.D. 240 ft. |
| Gulf Oil Corp.'s No. 2 Catlin, 330 ft. S and W NW cor. SW, Sec. 40, but in Sec. 57, Blk. 3, I.&G.N. Sur. | T.P. 3,043 ft; T.D. 3,156 ft; shot and C.O. |
| R. H. Locke's No. 1 McKnight, 1,320 ft. N and W, Sec. 178, Blk. B-2, H.&G.N. Sur. | Spudded. |
| Mazda-Shell Pet. Corp.'s No. 3 Combs-Worley, 330 ft. from N and W NE, Sec. 35, Blk. 3, I.&G.N. Sur. | Flowed 27 bbls. per hr. with 13,000,000 ft. of gas; T.D. 3,033 ft. |
| Mazda-Shell's No. 4 Coombs-Worley, 990 ft. from N line 330 ft. from E line, Sec. 35, Blk. 3, I.&G.N. Sur. | Rig. |
| Mid-Kansas O. & G. Co.'s No. 1 Gethinga, 330 ft. S, 1,650 ft. W S½ S½, Sec. 13, Blk. A-19, H.&G.N. Sur. | T.P. 2,586 ft; 2 bbls. daily; T.D. 2,772 ft. |
| Ochiltree et al's No. 1 Hughey, 360 ft. S, 330 ft. E E half SE, Sec. 129, Blk. 3, I.&G.N. Sur. | Drlg. 2,752 ft. |
| Parton & Holt's No. 2 Morse, 330 ft. from W, 250 ft. from N, W½ SW, Sec. 5, Blk. 26, H.&G.N. Sur. | S.D. 2,635 ft; to shoot. |
| Parton Holt's No. 3 Morse, 660 ft. from N and E of E half SW, Sec. 5, Blk. 26, H.&G.N. Sur. | S.D. 2,582 ft.; flowed 8 bbls. per day. |
| Peterson & Holt's No. 1 Gething, 330 ft. from S and W of N½ SE Sec. 13, Blk. 9-A, H.&G.N. Sur. | Cellar. |
| Phillips Pet. Co.'s No. 1 Davidson, 330 ft. N and W, Sec. 86, Blk. B-2, H.&G.N. Sur. | Spudded. |
| Pulse-Shell's No. 1 Brown, 290 ft. from N, 250 ft. from E of NW, Sec. 128, Blk. 3, I.&G.N. Sur. | T.D. 3,263 ft.; T.P. 3,215 ft.; swabbed 230 bbls. in 14 hrs. after shot. |
| Quicksand Oil Co.'s No. 2 Chapman, 165 ft. N, 775 ft. from E of W 60 ac. of N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. | S.D. 2,075 ft. |
| Saunders et al's No. 2 Sullivan, 822 ft. from W, 231 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur. | Will plug back to 3,275 ft. and shoot. |
| Skelly Oil Co.'s No. 1 Gething, 990 ft. from S and W of Sec. 48, Blk. 9-A, H.&G.N. Sur. | Spudded. |
| Skelly Oil Co.'s No. 3-A South Jackson, 330 ft. N, 1,050 ft. E, Sec. 35, Blk. B-2, H.&G.N. Sur. | Location. |
| Tedesco-Bell O. & G. Co.'s No. 4 Morse, 990 ft. N and W SE, Sec. 1, Blk. 26, H.&G.N. Sur. | S.D. |
| Texoma Nat. Gas Co.'s No. 1-G Abersold, 2,632 ft. N, 2,640 ft. W, Sec. 180, Blk. 3, I.&G.N. Sur. | Ran 10-in. csg. 905 ft. |
| The Texas Co.'s No. 2 Barrett, 1,022 ft. N, 300 ft. E NW, Sec. 130, Blk. 3, I.&G.N. Sur. | T.D. 3,127 ft; T.P. 3,118 ft; to test. |
| The Texas Co.'s No. 1 Gethinga, 330 ft. from S line, 330 ft. from W line, S½ Sec. 47, Blk. 9-A, H.&G.N. Sur. | Drlg. 1,525 ft. |
| Paul Tharp's No. 1 Short, 330 ft. from N and W of Sec. 2, Blk. 1, H.&G.N. Sur. | Spudded. |
| Sam Travis' No. 1 Back, 330 ft. S and E E half NE, Sec. 44, Blk. 25, H.&G.N. Sur. | Rig. |
| Tripplehorn Bros.' No. 1 Lovett, 330 ft. from N and W, Sec. 57, Blk. B-2, H.&G.N. Sur. | T.D. 3,154 ft; S.L.M; swabbed 75 bbls. in 12 hrs. |
| Weitzel Oil Co.'s No. 2 Morse, 330 ft. from S and E of N half NW, Sec. 67, Blk. 25, A.&G.N. Sur. | T.D. 2,675 ft.; plugged back to 2,285 ft.; to set csg. |

### HEMPHILL COUNTY

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| Hoover's No. 1 Hoover, 350 ft. from N, 1,200 ft. from E, G. S. Hood Sur. | S.D. 5,230 ft. |

### HUTCHINSON COUNTY

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| Alexander's No. 1 Cockrell, 330 ft. N and E of E 80 of S 160, Sec. 3, Blk. M-2, T.C. Sur. | Drlg. 375 ft. |
| Baso's No. 1 Moore, 330 ft. from S, 330 ft. from E, in 80 ac. in NW, Sec. 21, Blk. M-21, T.C.R.R. Sur. | T.D. 3,080 ft.; est. 5 or 10 bbls. may plug. |
| Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 34, Blk. Y, A.&B. Sur. | Spudded and S.D. |
| Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur. | S.D. 450 ft. |
| Huber Pet. Co.'s No. 1 Moyer-Johnson, 990 ft. from N, 330 ft. from E half SW, Sec. 34, Blk. Y, A.&B. Sur. | S.D. 2,918 ft. |
| **Huber Pet. Co.'s No. 1 Worka, 1,342 ft. from S and 1,813 ft. from E, Sec. 7, Blk. Y-2, T.T. Sur.** | U.R. 10-in. csg. 1,690 ft. |
| Liner Drlg. Co.'s No. 1-D Johnson, 330 ft. from N and E, Sec. 6, Blk. 1, B.&B. Sur. | T.D. 3,146 ft. |
| Joe Murphy's No. 1 Watkins, 440 ft. from N and W of N half, Sec. 13, Blk. M-21 | Standardizing 2,680 ft. |
| Pharis Oil Co.'s No. 5 Smith, 660 ft. from N and W, SW, Sec. 14, Blk. Y, M.&C. Sur. | Shut down. |
| Stanolind O. & G. Co.'s No. 4-A Ware, 330 ft. S and W NE, Sec. 124, Blk. 4, I.&G.N. Sur. | U.R. 8¼-in. csg. 2,275 ft. |
| Steckol Prod. Co.'s No. 2-D Whittenburg, 1,065 ft. from S and W, Sec. 38, Blk. M-22, T.C. Sur. | T.D. 3,035 ft.; T.P. 3,000 ft.; to shoot. |
| Texilvania Oil Co.'s No. 1 Haile, 330 ft. S, 280 ft. W, Sec. 16, Blk. 1, E.L.R.R. Sur. | Drlg. 915 ft. |

### LIPSCOMB COUNTY

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| Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. | T.D. 5,003 ft. |

### MOORE COUNTY

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| Canadian River Gas Co.'s No. 3-A Perkins, 3,250 ft. S of most northerly NE cor, 200 ft. W of E line, Sec. 54, Blk. 47, H.&T.C. Sur. | Spudded. |
| Dogie Oil Co.'s No. 1 Greenwald, 330 ft. from N and W, Sec. 277, Blk. 44, H.&T.C. Sur. | S.D. 2,171 ft. |
| Shamrock Oil & Gas Co.'s No. 2 Brumley, 330 ft. from N and W, Sec. 360, Blk. 44, H.&T.C. Sur. | T.D. 3,555 ft.; T.P. 3,470 ft.; to shoot. |
| Shamrock Oil & Gas Co.'s No. 1 Burnett, 660 ft. from S, 330 ft. from W, Sec. 359, Blk. 44, H.&T.C. Sur. | Drlg. 3,638 ft; 200 ft. oil in hole at 3,428 ft; wtr. at 3,565 ft. |

### MOTLEY COUNTY

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|---|---|
| Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. | S.D. 530 ft. |

### OLDHAM COUNTY

| | |
|---|---|
| Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. | S.D. 400 ft. |
| Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. 3, G.C.&S.F. Sur. | Sidetrack 8-in. csg. to drill by with rotary. |

### ROBERTS COUNTY

| | |
|---|---|
| Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. | Pulling csg. to rerun at 4,870 ft. |

### WHEELER COUNTY

| | |
|---|---|
| Delaney et al's No. 1 Sitter, 330 ft. from S and W of E half NE, Sec. 33, Blk. 24 | Est. 70,000,000 ft. gas; cmtd. 8¼-in. csg. 2,333 ft. |
| Devore & Robinson's No. 1 Sitter, 2,310 ft. from S and E, E½, Sec. 33, Blk. 24, H.&G.N. Sur. | T.D. 2,760 ft.; S.D. for pipe line connection. |
| Helena O. & G. Co. et al's No. 1 Below, C NE SW, Sec. 50 | Location. |
| B. M. Rhodes' No. 1 Noel, 330 ft. S and E NE, Sec. 54, Blk. 24, H.&G.N. Sur. | Material on ground. |

# Well Starting at 2,000 Bbls. Per Day Extended Mabee Pool in McPherson County, Kansas

By W. A. SPINNEY
Staff Correspondent, Kansas Fields

The market demand for Kansas crude oil from January 15 to February 15, as shown by the nominations of crude oil purchasers, was fixed at 96,695 bbls. at a hearing held Thursday, January 12, at Wichita, before the Kansas Public Service Commission.

Representatives of the purchasing companies complied with the request of the commission and were present to submit their nominations. The largest was that of the White Eagle Oil Corp., 12,500 bbls. daily for their Augusta refinery. The following is a list of nominations by companies:

| Company— | Bbls. |
|---|---|
| Barnsdall | 1,700 |
| Continental | 4,850 |
| Carter | 900 |
| Derby | 4,000 |
| Dickey | 600 |
| Eldorado | 2,500 |
| Empire | 10,400 |
| Golden Rule | 250 |
| Kanotex | 2,500 |
| Gypsy | 2,500 |
| Phillips | 8,700 |
| National | 2,000 |
| Sinclair Prairie | 8,000 |
| Stanolind | 8,645 |
| Shell | 8,950 |
| Skelly | 16,500 |
| White Eagle | 12,500 |
| Hollow | 1,500 |
| Sunflower | 1,600 |
| Vickers | 2,200 |
| Total | 96,695 |

At the same meeting the commission considered the application for discovery rights in the chat formation in the Hollow Pool, in Harvey County, and the Wilcox sand discovery rights in the Ritz-Canton-Decker Field, in McPherson County. Both were denied.

Evidence was also taken in regard to the Mabee Pool, in McPherson County. The commissioners said there was no intention of changing the order made on December 12, establishing the Mabee Pool, a separate producing area from the Voshell Pool.

Due to a controversy over the orders governing the Mabee Pool, the Derby Oil Co. obtained a temporary restraining order from the district court at Hutchinson. The order prevented the commission from closing any of the wells in the Mabee Pool.

The application of Lloyd, Study and others, asking for a separation of the chat formation in the Hollow Pool, in Harvey County, and discovery rights for their No. 1 Martens well, was denied.

The application of Tom Palmer and others, asking for a separation of the Wilcox sand production in the Ritz-Canton-Decker Field, of McPherson County, and discovery rights on their No. 1 Winn well, was denied.

The application of Slick, Pryor & Lockhart, asking for the repeal of the 50-bbl. daily minimum allowable in the Voshell Pool, was granted and changed to 25 bbls. a day.

### Found Crude Outlet

State Umpire L. R. Pickrell announces that in December several areas in the central western part of the State, which had been shut in without a pipe line connection, found an outlet for the crude and started producing. The Heiken Field, in Ellsworth County, was opened and started producing on December 15, and the outlet is placed at approximately 20 per cent of the potential production. The Ploog Field, in Rice County, was opened and put on production on December 1, and it is producing and shipping 100 per cent of the potential production. The Sharpe area, in Rice County, is now being opened up and has a market for 100 bbls. a day. The Breford area, in Ellsworth County, was opened up on January 1, 1933.

It is expected that the other areas in the central western part of the State along the Barton-Ellsworth arch will be given an outlet for part of their production. These areas include the Stanolind Oil & Gas Co.'s Scheufler area, in Barton County, the Richardson Field in Stafford County, the Orth area in Rice County, and the Steckel area in Rice County.

According to the umpire, the combined central western pools have a potential of 43,471 bbls. of oil a day from 51 wells. Wells are permitted to produce only a small percentage of their potential as indicated by the pipe line shipments from all of these pools in December, which was 110,381 bbls. for the 31-day period. With the exception of the pools opened to production in December, there is no change in the pipe line nominations in the State.

The Sinclair Prairie Oil Co.'s No. 1 Davidson, in Section 4-16-11w, a wildcat in Barton County, which has been shut in since its completion, is now being produced. The oil is not going to market, but is being sold for fuel oil to another wildcat well which is being drilled near the townsite of Wilson, in Ellsworth County. No. 1 Davidson is rated as a 75-bbl. well by the state umpire and is about 2½ years old. The oil is being moved out in a truck.

### Ritz-Canton's Potential

The umpire's report shows that the Ritz-Canton-Decker Field in McPherson County is still the largest producing field in the State with a potential of 87,183 bbls. of oil a day from 173 producing wells. The large potential is divided into two producing horizons. The chat formation has a potential of 14,390 bbls. a day from 71 wells, the Viola lime formation 72,793 bbls. a day from 102 wells.

On December 31, 1932, the Public Service Commission made an order reducing the minimum allowable on the chat wells in the Ritz-Canton-Decker Field from 100 bbls. a day to 75 bbls. a day. The order was retroactive to December 24, 1932, and it was necessary to refigure the allowables on all wells affected.

Due to increase in nominations, effective January 4, 1933, the allowable on all the Viola lime and deep sand wells in the Ritz-Canton-Decker Field was increased from 8 per cent to 12 per cent of the potential production. At the same time a new schedule was figured for the chat wells and in compliance with the order reducing the minimum well allowable, the allowable on all chat wells, excepting those receiving full production or minimum allowance, was increased from 13 per cent to 20 per cent and made retroactive to December 24, 1932.

On the Canton Townsite on the east edge of the Ritz-Canton-Decker Field, Keys Brothers' No. 1 Mun, SW cor. SE, Section 21-19-1w, was drilling deeper to the Viola lime at 3,185 feet. A showing of gas was found in the chat.

### Good Well in Mabee Pool

In the Mabee Pool in McPherson County another large well was completed extending the production a location north. The well was Mid-Kansas Oil & Gas Co.'s No. 1 J. J. Schmidt, NE cor. SE NW, Section 33-21-3w. It was swabbing and flowing 85 bbls. of oil an hour and is estimated at 2,000 bbls. a day. The oil was found in the Hunton lime at 3,467-77 feet. This well offsets the Derby Oil Co.'s No. 1 Hamm. The Mid-Kansas Oil & Gas Co.'s No. 3 Schmidt, SE cor. NE NE, Section 33-21-3w, is a new location, offsetting the Lario Oil & Gas Co.'s No. 1 Koehn.

### Watching Marion County Test

Interest in Marion County is being revived and considerable trading and new leasing has been in progress. The new interest is due to the showing of Farrell and others' No. 1 Williamson, C NW SE Section 21-19-4, a wildcat well which found the Kansas City-Lansing lime at 1,785 feet, logging 24 feet higher on this marker formation than another well that was drilled in the NW of Section 21-19-4. This last mentioned well was drilled by Youker and others in 1927 and had a showing of oil in the Wilcox sand at 2,670 feet. Another well was drilled east of the No. 1 Williamson, in 1917, which also found a showing of oil in the Wilcox sand. Many express the opinion that it would have been completed for a producer if there had been a pipe line in this district at that time.

It has been the contention of a number of oil companies and individual operators that a well drilled between these other two wells would produce from the Wilcox sand, as the geology indicates that the structure is between the two earlier tests.

Several thousand acres of leases have been taken around the block on which the well is being drilled, and trading is increasing as the result of the well logging high on the Kansas City lime formation.

Water was found in the semiwildcat test of Carey, Turner and W. C. McBride, Inc.'s No. 1 Regier, NW cor. SW SE Section 30-22-3w, Harvey County, at a total depth of 3,551 feet, in Hunton lime. The finding of water in this well ends the hope of extending the production in the Hollow Pool, in Harvey County, far to the south. It is located about 1 mile south of the other Hunton lime wells in the pool. The well may be drilled deeper.

### Butler County

Cosmic Oil Co.'s No. 53 Porter, C S

(Continued on Page 52)

## Wildcat Operations in Kansas

(Descriptions are East unless marked otherwise)

**BARTON COUNTY**

Company, farm and location— Remarks:

Sinclair Prairie Oil Co.'s No. 1 Turgeon, C NE NW, Sec. 3-16-12w ..... Drlg. 3,100 ft.

Rankin's No. 1 Seecy, C SW NE Sec. 34-18-12w ..... S.D. 100 ft.

Doherty et al's No. 1 Roesler, SW NE Sec. 11-18-11w .... S.D. 1,975 ft.

Skelton Oil Co.'s No. 1 Ott, C SE SE Sec. 16-19-14w ..... Set liner 3,530-46 ft.; show oil; S.D. 3,695 ft.

**COWLEY COUNTY**

Roth & Farout's No. 1 Craig, SE cor., Sec. 2-32-3 ..... Drlg. 3,200 ft.

**DICKINSON COUNTY**

Severs' No. 1 Livingood (O.W.D.D.), SE NW Sec. 13-13-2I. S.D. 4,900 ft.

**ELLIS COUNTY**

Phillips Pet. Co.'s No. 1 Unknown, C SW Sec. 33-11-17w .. Location.

**ELLSWORTH COUNTY**

Mid-Kansas Oil & Gas Co.'s No. 1 Kanak, NE SW Sec. 15-16-7w ..... 4,500,000 ft. gas at 1,765 ft; drlg. 1,800 ft.

Henry et al's No. 1 Arnsman, C SW SW Sec. 10-15-7w .. Rig.

Sinclair Prairie's No. 1 Unknown, C NE NE Sec. 27-15-8w ..... Drlg. 3,410 ft.

Buckford's No. 1 Burke, C NE SW Sec. 14-14-9w ..... S.D. 50 ft.

Gurley Bros. and Barnsdall's No. 1 Union Pacific, NW SW Sec. 7-14-7w ..... Drlg. 3,190 ft.

R. Gear et al's No. 1 Kroboth, SE NW Sec. 12-15-10w .. Drlg. 2,700 ft.

**FINNEY COUNTY**

L. F. Meyers' No. 1 Brown, S SW Sec. 16-25-34w ..... Completed, 5,000,000 ft. gas 2,635-2,743 ft; comp.

**GRAHAM COUNTY**

Schleimeyer et al's No. 1 Smith, SE Sec. 24-8-25w ..... R.U.S.T. 3,615 ft.

**HARVEY COUNTY**

Phillips Pet. Co.'s No. 1 Weeks, NE SE NE Sec. 30-23-3 .. Drlg. 1,110 ft.

**MARION COUNTY**

Farrell et al's No. 1 Williamson, C NW SE Sec. 21-19-4 .. S.D. 1,100 ft.

Vernon et al's No. 1 Schmidt, C SW NW Sec. 28-19-1 ..... S.D. 2,215 ft.

**McPHERSON COUNTY**

Lario O. & G. Co.'s No. 1 Wilke, C SE NE Sec. 34-20-4w .. Drlg. 300 ft.

Holcomb & Trummer's No. 1 Waltner, SW NE SE Sec. 18-20-2w ..... Location.

Whan et al's No. 1 Nelson, NW SE Section 18-19-2w ..... Location.

Snyder et al's No. 1 Carlson, SE cor. Sec. 4-19-3w ..... S.D. 2,858 ft.

Sidwell et al's No. 1 Nichols, NE NW NW Sec. 28-17-1w .. S.D. 1,205 ft.

**MORTON COUNTY**

Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 32, 34-43w ..... T.D. 3,640 ft.; temp. abd.

**NESS COUNTY**

Sinclair Prairie Oil & Gas Co.'s No. 1, C SW SW Sec. 16-19-21w ..... Drlg. 3,915 ft.

**NORTON COUNTY**

Richards et al's No. 1 Colby, Sec. 17-4-21w ..... Rig.

**OSAGE COUNTY**

Briggs & Smith's No. 1 Wood, SE NW Sec. 21-14-16 ..... S.O. 2,190-2,200 ft.; temp. abnd

**PRATT COUNTY**

Nimnecah O. & G. Co.'s No. 1 Hardesty, SW SE SE Sec. 28-27-11w ..... T.D. 3,420 ft; wtr.; U.R.

**RENO COUNTY**

Skelly Oil Co.'s No. 1 Cole, C SE NW Sec. 4-26-8w ..... Drlg. 1,400 ft.

F. L. Johnson's No. 1 Crotts, NE NW NE Sec. 27-26-10w. S.D. 50 ft.

**RICE COUNTY**

Langston et al's No. 1 Wells, NE SE Sec. 4-20-9w ..... Rig.

J. Liggett et al's No. 1 Thodel, C NW NW Sec. 11-21-7w .. S.D. 50 ft.

**SALINE COUNTY**

Frank Dieter's No. 1 Fulton, SW NW Sec. 14-16-2w ..... Rig.

**SEDGWICK COUNTY**

Cameron-Great Basin Oil Co.'s No. 1 Landon, C SE NW Sec. 13-28-2 ..... Top Sil. 3,302 ft; S.D. 3,516 ft.

**STEVENS COUNTY**

Argus Prod.'s No. 2 Christopher, C NE Sec. 16-33-39w .... S.D. 5,521 ft.

**STAFFORD COUNTY**

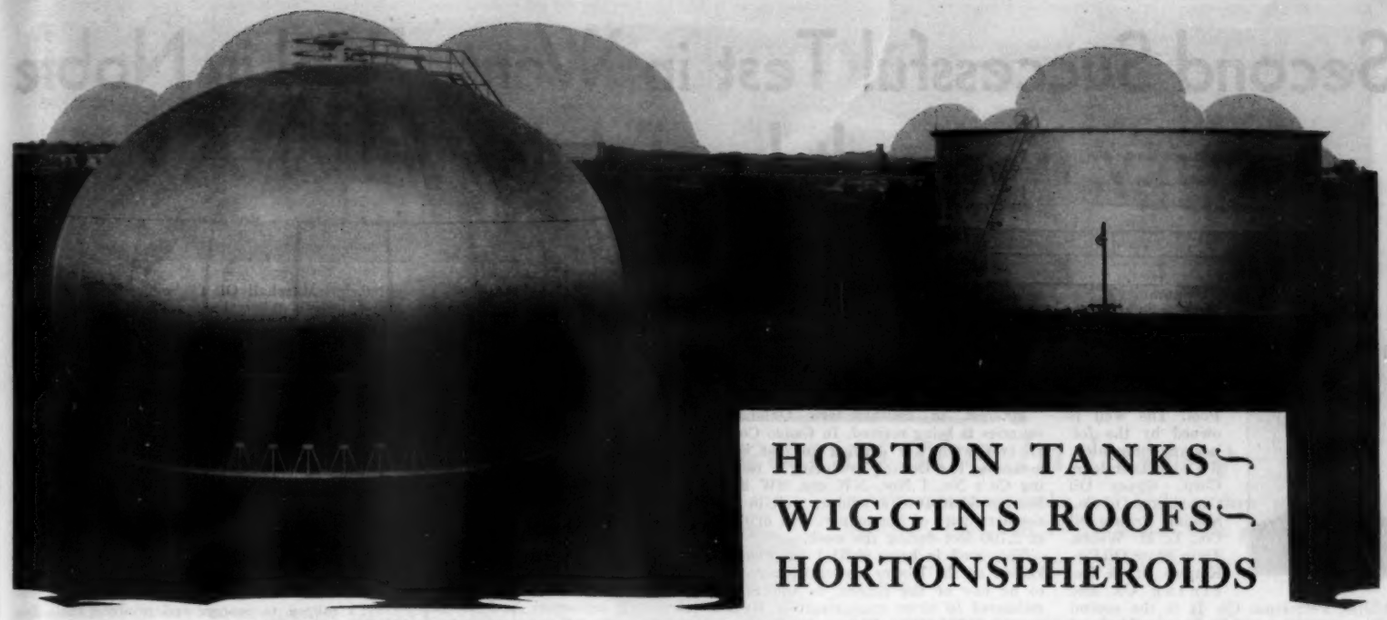
Stringer et al's No. 1 Swindle, SW NE Sec. 2-25-11w ..... Spudded; S.D.

**SUMNER COUNTY**

Deal Oil & Gas Co.'s No. 1 Thompkins, SW cor. Sec. 26-33-1 ..... Machine.

**WOODSON COUNTY**

Steedy et al's No. 1 Ryan NE SW SW Sec. 32-24-14 ..... Miss. lime 1,701-21 ft; wtr.; abd.



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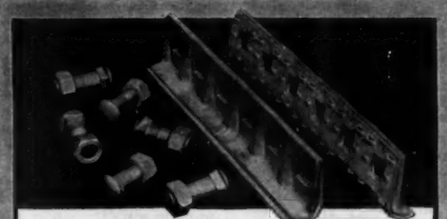

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# Second Successful Test in Wentz Pool in Noble County Makes It Look Like Major Area

By W. A. SPINNEY
Staff Correspondent, Oklahoma Fields

Lucion Consolidated Community's No. 1 Jerome, C SW SW, Section 8-20-2w, is the second wildcat well southwest of Perry, in Noble County, to find oil in the new Wentz Pool. The well is owned by the following companies: Shell Petroleum Corp., Gypsy Oil Co., Carter Oil Co., Sinclair Prairie Oil Co., L. H. Wentz, Twin State Oil Co., Empire Oil & Refining Co. and Phillips Petroleum Co. It is the second well to have been drilled on a block of 2,100 acres of unitized leases.

Oil was found in the Wilcox sand at 5,184-5,219 feet, where the well started flowing oil together with 4,000,000 feet of gas a day. It was then shut in to erect tankage and it was expected to be tested in a few days after approximately 2,000 bbls. of tankage has been erected.

The well is estimated at 1,000 bbls. a day as it now stands, but will probably be drilled deeper. This well extends the production in the Wents Pool a half mile northwest of the discovery well.

The discovery well, drilled by the same group of companies in the SW cor. NW, Section 17-20-2w, was completed in September, 1932, for an initial production of 1,817 bbls. from the Wilcox sand and after taking a 10-day potential test making around 22,000 bbls. of oil in that time was ordered shut in for 400 days in compliance with proration orders.

The next well expected to reach the sand is Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Kolb, C NE NW, Section 33-20-2w, about 2½ miles southeast of the discovery well. It was cleaning out after cementing the casing at 4,133 feet in Viola lime.

Interest in this area is becoming active again as these two wells are nearing completion. A number of short term leases may be drilled in this area during the next few months.

The daily average production of Oklahoma for the week ending January 14 was estimated at 401,250 bbls. which is a slight gain over the previous week of 1,700 bbls. daily.

### In Southern Counties

In southern Oklahoma two wildcat locations were staked in Stephens County. Bridwell Oil Co.'s No. 1 Weldon, NE cor. SW SW NE Section 12-3s-8w, is located about 3 miles south and 1 mile west of the townsite of Comanche. H. C. McLaughlin and others' No. 1 Gann, NE cor. SE NE Section 31-2-4w, is in the northeastern part of Stephens County. There are 10 other active operations in the county. Five miles south and two miles west of Duncan, G. L. Pace's No. 3 Houston, NE cor. SE SW Section 2-2s-8w, was estimated at 20 bbls. a day from sand at 2,145-52 feet.

H. L. Brown's No. 1 Donham, NW cor. SE NE Section 22-2s-8w, is showing oil from sand at 2,133-36 feet and it will be drilled deeper before completing.

G. W. Haines and others' No. 1 Woolsey, NE cor. NW SE Section 4-3s-6w, a wildcat in the southeastern part of Stephens County, was cleaning out after a shot at 2,242-61 feet. A showing of oil was found in the sand before the shot.

In the Tatums Field in Carter County, Carter Oil Co.'s No. 3 P. Robb, SE cor. SW NW Section 19-1s-2w, swabbed 225 bbls. of oil in 14 hours from the sand at 1,661-1,870 feet, with the total depth 1,927 feet. The same company announced a location for No. 2 Spraggins, NE cor. NW NW SW Section 19-1s-2w.

### Caddo County's Deep Tests

Interest in southwestern Oklahoma counties is being revived. In Caddo County two wells are drilling to test deep horizons. The Denver Producing & Refining Co.'s No. 1 Noe, NW cor. SW SW, Section 34-10-10w, a wildcat well in the northern part of the county, was drilling at 2,700 feet during the week.

This well is being drilled on what is known as the Binger structure, reported to be one of the largest in the State, estimated to cover approximately 40,000 acres, of which the Denver Producing & Refining Co. and the Pure Oil Co. own about 30,000 acres. The rest is divided among major companies and independents.

In the south end of the county, Nichols Oil & Refining Co.'s No. 1 Rigney, in Section 12-5-9w, in the Cement Field, Caddo County, was drilling at 4,100 feet. This well is expected to be drilled to 7,000 feet.

Two interesting wildcats were started during the week in the Greater Seminole area, both in Seminole County. These tests were made necessary by short term leases, but were decided on after intensive geological surveys. The Amerada Petroleum Corp. and Indian Territory Illuminating Oil Co.'s No. 1 Palmer, NW cor., Section 36-6-7, is located between the Sasakwa and Allen Pools. The Carter Oil Co., Gypsy Oil Co. and Sinclair Prairie Oil Co.'s No. 1 Keokuk, C N half NW NE, Section 2-10-6, north of the Searight Pool is on a unitized block of 1,327 acres of which the Carter Oil Co. owns 1,077 acres, the Gypsy Oil Co. owns 240 acres and the Sinclair Prairie Oil Co. owns 40 acres.

### Commission's Meter Order

During the week the Oklahoma Corporation Commission issued an order requiring all producers in the Oklahoma City Field to install gas-saving and metering devices on all wells within the next 45 days. A recent survey of the field showed that the loss of gas exceeds the State's demand.

The commission's order also provides for reports from all the producers on all gas wells, whether the gas is utilized at the well or blown into the air or sent to casinghead plants. The order also provides for metering and reporting on residue gas at the gasoline plants, whether it is sold to pipe lines or blown into the air.

The findings of the commission after a series of hearings, reported in the order, assert that the wastage of natural gas in the Oklahoma City Field is about 300,000,000 feet per day, as compared to the actual consumption within the State of 117,000,000 feet a day. This order was signed by Chairman Paul Walker and J. C. Walton.

The order states that the wastage of natural gas has been and is flagrant and wanton. The State and its people have, or ought to have, a right greater than any property right, irrevocable and inalienable, in the natural resources of crude petroleum and natural gas, the waste and dissipation of such natural resources is, or ought to be, a crime against the State and its people. Wastage and dissipation of natural gas constitute a destruction of the heritage of the State and its people, and this indefensible wastage and dissipation of natural gas may be mitigated, if not prevented through proper operation of oil and gas wells.

The commission orders and "it will expect and require, within the shortest time practicable, which should not exceed 45 days, the proper equipping of all wells for the accounting of the conservation of natural gas."

Operators may be expected to tube or otherwise equip the oil wells in the Oklahoma City Field so that the wastage of gas can be prevented if possible.

The order of the commission states that further requirements of operators are that they should be expected to meter gas produced from oil wells, whether or not such gas is utilized and particularly that "all operators and manufacturers should meter all gas used, manufactured, consumed or wasted in the so-called casinghead plants, and particularly, should meter all residue, or tail gas dissipated or blown into the air, and report thereon regularly to the Corporation Commission, as now provided, for the report of production of gas wells and particularly should report separately the amount of all gas dissipated or blown into the air."

### Overproduction Charged

A complaint charging that an overproduction of approximately 183,180 bbls. of oil from five wells in the Oklahoma City Field was filed with the Corporation Commission against the Wirt Franklin Petroleum Corp. during the last week by Cicero I. Murray, in charge of military enforcement of proration in that field.

The complaint asserts that the crude oil was produced during December and it is asked that a full and complete hearing be held to determine whether the company has overproduced on any of its other wells in that field.

The wells and the amount of alleged overproduction charged against each of the wells are listed as follows:

| Well— | Bbbls. |
|---|---|
| No. 7 Lowery | 83,876 |
| No. 1 Wright | 29,757 |
| No. 2 Wright | 5,236 |
| No. 1 Page | 27,773 |
| No. 3 Page | 36,478 |
| Total | 183,180 |

### Revised Potentials

Revised potentials and underproduction were granted to wells in the Oklahoma City Field by the Oklahoma Corporation Commission on a recent order signed by E. R. Hughes and C. C. Childers the latter of whom retired from the office of corporation commissioner and was replaced by J. C. Walton. The same two commissioners also signed an order reclassifying a group of gas wells which were former oil producers in the Siliceous lime area of the Oklahoma City Field.

The Plains Petroleum Co.'s No. 1 Alexander, in Section 2-11-3w, in the Oklahoma City Field, was granted an adjustment on the oil produced, permitting the well to have 70,000 bbls. of underproduction. This was based on the total recovery of this well compared to the offset, Oils, Inc.'s No. 1 Ross. The 70,000 bbls. of underproduction is to be produced at not to exceed 1,000 bbls. daily.

At one of the hearings of the commission the total recovery of oil from the Plains Petroleum Co.'s No. 1 Alexander was placed at 309,835 bbls., while the total recovery of oil from the Oils, Inc.'s No. 1 Ross was placed at 1,062,409 bbls. It was alleged that the No. 1 Ross was overproduced 759,000 bbls. No potential was fixed for the Alexander at this time, as new potentials for all the wells in the field have been ordered for next month.

Marshall Oil Co.'s No. 1 Buxton was given 9,500 bbls. of underproduced oil and an adjusted potential of 31,251 bbls. At a recent hearing before the Corporation Commission, H. G. Marshall, president of the company, admitted overproduction of 626,000 bbls. of oil from No. 1 Buxton, No. 1 Keller and No. 1 Butcher. In view of the fact that no potential had been fixed for No. 1 Buxton, it was recommended that the commission fix it at 33,000 bbls. a day. The new potential is based on an adjustment after a short series of tests had been made at the well by the operator, during each of which tests the flow cut the connections and the well threatened to go wild. These three wells were among the 10 wells permitted to reopen and produce their December and January allowables on orders signed by Commissioners Childers and Hughes.

### Reclassified as Gas Wells

Nine wells, all owned by the Indian Territory Illuminating Oil Co., and located in the Siliceous lime zone of the Oklahoma City Field, were reclassified as gas wells after they had been plugged back from exhausted oil sands. The wells include No. 3 Canfield-Button, No. 2 Lillie Canfield, No. 2 Lizzie Farley, No. 1 Watters, No. 1 C. Brokaw, No. 2 Button, Nos. 2 and 3 Wheeler and No. 2 R. Jennings. The commission also affirmed the potential on the Indian Territory Illuminating Oil Co.'s No. 1 Precure, which was recently reconditioned by running tubing and putting the well on the air-gas lift. After this had been done the well showed 2,985 bbls. of oil on a potential production test.

### Production and Shipments

Production and oil shipments from the Oklahoma City Field for the month of December show an increase over the November figures, according to the monthly proration report issued by the military.

December production shows an increase over November of 271,941 bbls. for a total of 2,528,148 bbls. and the pipe line shipments show a gain of 326,627 bbls. for a total of 2,428,257 bbls.

Eight new wells were completed in the Oklahoma City Field during the month of December and were given an adjusted potential of 25,092 bbls. a day increasing the total adjusted potential of the field to 4,531,539 bbls. The adjusted potential is one-third of the 24-hour estimate.

The Phillips Petroleum Co.'s No. 2 Drew, SE cor. NW SE Section 22-11-3w, made 1,071 bbls. of oil in one hour and was then shut in. The gas was estimated at 16,000,000 feet a day. The well flowed through a 4-inch choke from the Wilcox sand at 6,467-6,580 feet.

Two locations were staked during the week, one Phillips Petroleum Co. and Shell Petroleum Corp.'s No. 3 Berg, NW cor. NE SW Section 26-11-3w, and the other was Herrell-Davis and Anderson-Prichard Oil Corp.'s No. 1 Surbeck, SE cor. NE SW Section 22-11-3w, it being located on Block 8, Wilmont place.

### Atoka County

Independent Oil Co.'s No. 1 James, C SW SW Section 22-2-15, was drilling at 435 feet.

### Creek County

Gled Oil Co.'s No. 4 Knight, C SW NW Section 24-19-8, found water and was abandoned at 2,518 feet. Swift and others' No. 1 King, NE cor. NW SW

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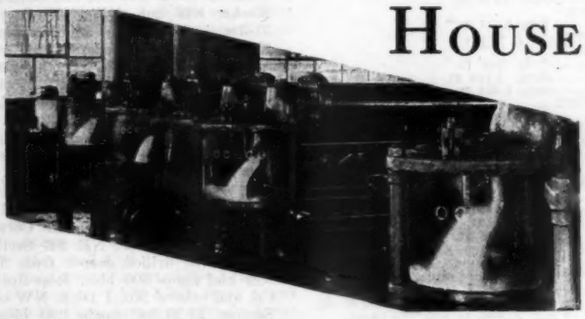

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Section 7-18-10, was completed for 72 bbls. from 2,313-46 feet.

### Carter County

Carter Oil Co.'s No. 2 Spragins, NE cor. NW NW SW Section 19-1s-2w, is a location. Solar Exploration Co.'s No. 1 Robinson, NW cor. NE NW Section 32-1s-2w, was abandoned at 1,927 feet.

### Hughes County

Phillips Petroleum Co.'s No. 2 Jacobs, SE cor. NE NE Section 16-7-8, is a location. Kennedy-Horner and others' No. 1 Jacobs, NW cor. NE NW Section 15-7-8, is a rig. Key Oklahoma Oil Co.'s No. 1 Davis, SW cor. NE NW Section 14-7-8, made 15 bbls. from 1,203-32 feet. Limestone Oil & Gas Co.'s No. 1 Chupco, NW cor. SW NW Section 15-7-8, was completed for 1,000 bbls. from 2,896-2,908 feet. Standard Oil Co. of Kansas' No. 2 Davis, NW cor. SW NE Section 30-7-8, was abandoned at 4,224 feet.

### Jefferson County

Farly Oil Co.'s No. 1 Seay, NE cor. SW SE Section 3-7-5w, is a rig.

### Logan County

Shell Petroleum Corp.'s No. 9 McCully, SW cor. SE Section 30-19-4w, an old well drilling deeper, is rigging; total depth 5,970 feet.

### Muskogee County

T. E. Wheeler and others' No. 1 Jackson, SE cor. Section 13-15-17, is a rig. Dunbar & Reed's No. 1 Spaulding, SE cor. NW SE SW Section 4-15-18, was drilling at 500 feet. Goodman-Cantrell's No. 1 McDaniel, C NE NW Section 4-15-15, was abandoned at 950 feet. H. W. Guinan's No. 1 Lewis, NW cor. SE Section 8-14-17, was abandoned at 675 feet. J. H. McDonald's No. 1 Barnett, CNL S half NE SE Section 9-14-18, was abandoned at 1,675 feet.

### Oklahoma County

Harrill-Davis' No. 1 Surbeck, SE cor. NE SW Section 22-11-3w, is a location. Phillips Petroleum Co.'s No. 3 Berg, C NW NE SW Section 26-11-3w, is a location. Same company's No. 1 Devore, CNL SE SE Section 22-11-3w, made 1,346 bbls. in four hours from 6,471-6,500 feet.

### Osage County

Continental Oil Co. and others' No. 7, SE cor. SW SE SE Section 5-23-9, is a location. Continental Oil Co. and Gypsy Oil Co.'s No. 1, SW cor. SE SW Section 12-23-7, made 2,321 bbls. at 2,893-94 feet.

### Okmulgee County

The Texas Company's No. 5 Grayson, NW cor. SW NE Section 35-16-11, is a machine. Same company's No. 6 Grayson, SW cor. NW NE Section 35-16-11, is a location. Appleby-Price's No. 3 Anderson, NW cor. SE NE Section 3-15-14, is a machine. Castleman's No. 9 Thomas, SE cor. NW SW SE Section 23-14-14, is spudding. Borsbaugh and others' No. 1 Grayson, CEL SW NE Section 35-15-14, was drilling at 800 feet. Klingensmith's No. 6 Grayson, SW cor. NE NE NW Section 35-16-11, was drilling at 300 feet. Paraffine Oil Co.'s No. 5 Grayson, SW cor. SE SE SW Section 26-16-11, was drilling at 450 feet. Babcock Brothers' No. 6 Starr, CEL SE NE Section 2-14-14, was abandoned at 1,438 feet. J. E. Wallace's No. 4 Colbert, SW cor. NE NW Section 14-14-14, made 15 bbls. from 1,765-82 feet.

### Seminole County

Stanolind Oil & Gas Co. and others' No. 1 Palmer, NW cor. Section 36-6-7, is a location.

### Stephens County

Bridwell Oil & Gas Co.'s No. 1 Wildom, NE cor. SW SW NE Section 12-3s-8w, was spudding. McLaughlin and others' No. 1 Gann, C NE SE NW Section 31-2s-4w, is a location.

### Pontotoc County

Benedum & Trees' No. 2 Burke, NW cor. SW SW Section 28-5-5, is a location. Same company's No. 3 Malloy, NE cor. SW SW Section 30-5-5, made 165 bbls. from 2,500-88 feet. Sunray Oil Co.'s No. 1 Grant, C SE NE Section 11-4-8, was abandoned at 3,096 feet. Ligon-Todd's No. 2 Starrett, SW cor. SE SE Section 29-5-5, was completed for 50 bbls. from 2,300-22 feet; total depth 2,004 feet.

### Pottawatomie County

Barrett and others' No. 1 Brandenburg, SW cor. SE Section 3-7-4, is a location. J. Head's No. 1 Brandenberg, SW cor. NE SE Section 3-7-4, is a location. Stewart-Clark's No. 2 Brister, NW cor. SW NE Section 28-7-4, is a location. Gypsy Oil Co.'s No. 1 O'Connor, NW cor. SE Section 25-6-4, made 679 bbls. from 3,450-99 feet.

### Wagoner County

Metzger & Foltz' No. 5 Wilson, SE cor. SW NW Section 30-17-17, was abandoned at 1,305 feet.

## Wildcat Operations in Oklahoma

### Northern Oklahoma

#### ATOKA COUNTY

| Company, farm and location— | Remarks: |
|---|---|
| Independent Oil Co.'s No. 1 D. James, C NE NE Sec. 28-3-15 | S.D. 75 ft. |
| Barton's No. 4 Miller, SE NW SE SW Sec. 26-1-14 | S.D. 505 ft. |
| Hicks' No. 2 Morris, SE NE NW SE Sec. 5-1-15 | Drlg. sand 175-262 ft., estimated 3 bbls. |
| George's No. 1 Reddin, SW NE SW Sec. 19-1-15 | S.D. 640 ft. |

#### BECKHAM COUNTY

| | |
|---|---|
| Pattel Royalty's No. 1 Geese Tree, SW SE SW SE Sec. 32-10-23w | S.D. 1,865 ft. |
| Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-12-23w | S.D. 2,550 ft. |
| White et al's No. 1 Green, SW cor. Sec. 34-10-24w | S.D. 3,575 ft. |

#### BLAINE COUNTY

| | |
|---|---|
| Watonga Petroleum Co.'s No. 1 Masters, SW NW NW, Sec. 27-16-11w | S.D. 1,305 ft. |

#### CADDO COUNTY

| | |
|---|---|
| Denver P. & R. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w | Drlg. 1,000 ft. |
| Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w | S.D. 1,115 ft. |

#### COAL COUNTY

| | |
|---|---|
| Dodd & Burton's No. 1 Grigsby, NW SE NE Sec. 16-1-8 | S.D. 1,100 ft. |
| Funk & Russell's No. 1 Miller, SE NE Sec. 10-3-8 | S.D. 2,750 ft. |

#### COMANCHE COUNTY

| | |
|---|---|
| G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w | S.D. 1,450 ft. |

#### CREEK COUNTY

| | |
|---|---|
| O. O. Owen's No. 1 fee, NW cor. Sec. 22-16-7 | Drlg. 3,075 ft. |

#### CUSTER COUNTY

| | |
|---|---|
| Miley Pet. Co.'s No. 1 Caldwell, NE Sec. 12-14-14w | Location. |

#### ELLIS COUNTY

| | |
|---|---|
| Algers Pet. Co.'s No. 1 Roper, C SE NW Sec. 21-20-24w | S.D. 50 ft. |

#### GRADY COUNTY

| | |
|---|---|
| English Drlg. Co.'s No. 1 Heenan-Coe, NE SE NE Sec. 32-3-7w | S.O. 3,255-87 ft; S.D. 3,504 ft. |

#### GARFIELD COUNTY

| | |
|---|---|
| E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w | S.D. 5,850 ft. |

#### GREER COUNTY

| | |
|---|---|
| French's No. 1 Murphy, SW NW Sec. 23-7-21w | S.D. 1,645 ft. |

#### HASKELL COUNTY

| | |
|---|---|
| Ault et al's No. 1 Hall, NW SW SW Sec. 14-9-19 | S.D. 2,000 ft. |
| Ault et al's No. 1 Hall, SE NW Sec. 23-19-9 | S.D. 200 ft. |

#### HUGHES COUNTY

| | |
|---|---|
| Nash-Redwine's No. 1 Uri, C NE Sec. 10-5-11 | Drlg. 1,900 ft. |

#### KAY COUNTY

| | |
|---|---|
| Lewis et al's No. 1 Harris, SE NW Sec. 14-25-1 | Location. |
| Mummert Drlg. Co. et al's No. 1 Cermick, C NW SE Sec. 9-27-3 | S.D. 3,693 ft. |

#### KIOWA COUNTY

| | |
|---|---|
| Emenhiser et al's No. 1 Pace, SW cor. Sec. 3-4-17w | Location. |
| McWhirter et al's No. 1 Vanderneck, NE NW Sec. 3-7-19w (O.W.D.D.) | T.D. 1,902 ft.; C.O. |
| McWhirter Bros.' No. 1 Kline, SE NW Sec. 5-6-16w | S.D. 830 ft. |
| Christian's No. 1 Jones, NE SE Sec. 4-7-15w | S.D. 1,610 ft. |

#### LOGAN COUNTY

| | |
|---|---|
| Eason Oil et al's No. 1 Gun Club, NW NE Sec. 10-16-4w | Drlg. 6,415 ft. |

#### NOBLE COUNTY

| | |
|---|---|
| Stanolind O. & G. Co. et al's No. 1 Kalb, C NE NW, Sec. 33-20-2w | Drlg. 4,935 ft. |
| Rollins et al's No. 1 Frank, SE SW Sec. 6-20-2w | Rig. |

#### OKLAHOMA COUNTY

| | |
|---|---|
| Citizens Oil Co.'s No. 1 Sage Barber, NE cor. Sec. 21-11-3w | S.D. 1,200 ft. |
| L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w | S.D. 5,515 ft. |

#### PAWNEE COUNTY

| | |
|---|---|
| G. M. Mainess and Westfield Drlg. Co.'s No. 1 Schildberg, NW SW NW Sec. 27-22-6 | Drlg. 500 ft. |
| Deep Rock's No. 1 Crow, NE SE Sec. 26-22-5 | Drlg. 1,180 ft. |
| Rockstool's No. 1 Wylie, NW NE SW Sec. 6-20-5 | S.D. 1,950 ft. |

#### PITTSBURG COUNTY

| | |
|---|---|
| Moffett & Hall's No. 1 Jones, NW cor. Sec. 14-5-14 | S.D. 1,675 ft. |

#### PONTOTOC COUNTY

| | |
|---|---|
| Choctaw O. & G. Co.'s No. 1 Thompson, SW NE SW Sec. 1-1-7 | Machine. |
| Delaney's No. 1 Harden, NE SW Sec. 30-3-7 | S.D. 875 ft. |
| Blackwell Oil & Gas Co.'s No. 1 Abbott, NW SW NE Sec. 14-4-6 | Drlg. 1,435 ft. |
| Williams' No. 1 Krath, NE SE Sec. 32-3-6 | S.D. 1,545 ft. |
| Edna Marie's No. 1 McWhirt, NE SE Sec. 11-2-6 | S.D. 570 ft. |
| Sunray Oil's No. 1 Grant, SE NE Sec. 11-4-8 | S.D. 3,096 ft. |

#### POTTAWATOMIE COUNTY

| | |
|---|---|
| Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4. | Rig. |

#### ROGER MILLS COUNTY

| | |
|---|---|
| Ute Oil Co.'s No. 1 Williams, C SW Sec. 23-12-24w | S.D. 5,150 ft. |
| L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-24w | S.D. 3,420 ft. |

#### SEMINOLE COUNTY

| | |
|---|---|
| Donnelly et al's No. 1 Shepard, SE NE Sec. 4-8-8 | Sand 1,395-1,405 ft; wtr. 1,500 ft; U.R. |

#### WASHITA COUNTY

| | |
|---|---|
| Miley Pet. Co.'s No. 1 Montgomery, SW NW SE NW Sec. 33-9-17w | S.D. 1,994 ft. |
| Miley Pet. Co.'s No. 1 Wolfe, NE SW Sec. 23-9-17w | Rig. |
| Cooper & Terhune's No. 1 Blocker, NW cor. Sec. 29-5-19w | Show oil 2,459-67 ft.; S.D. 2,757 ft. |
| Burns & Prince's No. 1 Deck, SW cor. Sec. 31-8-18 | S.D. 2,160 ft. |

### Southern Oklahoma

#### ATOKA COUNTY

| | |
|---|---|
| L. E. Stewart et al's No. 1 Stewart, SE SE Sec. 3-4s-10 | S.D. 850 ft. |
| Brookshire's No. 1 R. W. Rowland, NW NE SE Sec. 13-2s-10 | S.D. 3,425 ft. |

#### JEFFERSON COUNTY

| | |
|---|---|
| G. W. Haines' No. 1 Woolsey, SE SW NE Sec. 4-3s-6w (O.W.D.D.) | C.O. 2,261 ft. |
| J. D. Wakefield et al's No. 1 Kelly, NW SE Sec. 1-5s-8w | Spudding. |

#### MARSHALL COUNTY

| | |
|---|---|
| Lee Cross' No. 1 Hamlin, SE SW SW Sec. 26-4s-5 | S.D. 753 ft. |
| Thomas' No. 1 Setliff, SW SE SE SW Sec. 36-5s-6 | S.D. 645 ft. |

#### McCURTAIN COUNTY

| | |
|---|---|
| Stampfs' No. 1 Robert Harris, SW NW SW Sec. 14-9s-25 | S.D. 2,778 ft. |

#### PUSHMATAHA COUNTY

| | |
|---|---|
| Whitehead et al's No. 1 Messer, SE SW SW Sec. 35-3s-18 | S.D. 2,096 ft. |

#### STEPHENS COUNTY

| | |
|---|---|
| Calif. Prod. & Oper. Co.'s No. 1 Garnett, SE NE NE Sec. 11-3s-6w | S.D. 325 ft. |
| Calif. Prod. & Oper. Co.'s No. 1 Suton, NE SE SW Sec. 12-3s-6w | Rig. |
| Gillette Bros.' No. 1 Cooley, NW SE NW Sec. 17-3s-8w | S.D. 1,850 ft. |
| George's No. 1 Ryan, NW SW NE Sec. 31-2s-15 | S.D. 510 ft. |

#### TILLMAN COUNTY

| | |
|---|---|
| Emenheser et al's No. 1 Pace, C SW Sec. 3-4s-17w | Location. |
| Gypsy Oil Co.'s No. 1 Pitcher, NW Sec. 26-4s-15w | Rig. |

## Kansas

(Continued from Page 48)

half NW NE Section 1-26-4, was drilling at 300 feet. L. D. Osner's No. 1 Bailey, SW cor. NE Section 12-25-4, was drilling at 300 feet.

### Cowley County

Lewis and others' No. 1 Alspaugh, C NW SW SE Section 3-33-4, was abandoned at 50 feet.

### Chase County

Sheedy and others' No. 1 Leedy, SE cor. Section 36-22-9, was spudding.

### Ellsworth County

Smith and Gypsy Oil Co.'s No. 1 Shango, SW cor. Section 24-17-10w, is a rig. Olson Oil Co.'s No. 1 Brach, C SW SW Section 17-14-10w, is spudding. Sinclair Prairie Oil Co.'s No. 1 Mater, C NE NE Section 27-15-8w, was abandoned at 3,115 feet.

### Franklin County

Judd and others' No. 1, C SW NW Section 16-16-18, was abandoned at 1,210 feet.

### Greenwood County

Reeser and others' No. 1 Burney, SE cor. SW SW SW Section 3-25-12, was spudding.

### Kingman County

Skelly Oil Co.'s No. 3 Leisman, NW cor. Section 29-27-10w, was completed for 123 bbls. of oil and 3,500,000 feet of gas a day, from 3,358-70 feet.

### Lyon County

Sheedy and others' No. 1 Atkinson, NW cor. NE NW Section 20-20-10, was drilling at 1,300 feet.

### McPherson County

Lario Oil & Gas Co. and others' No. 1 Koehn, SW cor. NW NW Section 34-21-3w, is a location. Mid-Kansas Oil & Gas Co.'s No. 3 Schmidt, SE cor. NE NE Section 33-21-3w, is a location. Mabee, Inc., and others' No. 2 Koehn, NE cor. SE NE Section 33-21-3w, is a location. Palmer and others' No. 1 Winn, NE cor. NW SW Section 7-20-1w, an old well drilling deeper, was drilling at 3,000 feet. Gypsy Oil Co.'s No. 4 Krehbiel, NW cor. SW Section 3-21-3w, was abandoned at 3,453 feet. Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Berger, NW cor. NE SE Section 16-21-3w, was drilled deeper from 3,425-30 feet and made 300 bbls. Rose-Spring Oil Co. and others' No. 1 Dick, NW cor. NE Section 21-21-3w, made 280 bbls. from 3,445-52 feet. Lario Oil & Gas Co. and others' No. 2 Ritz, SE cor. NE SW Section 6-20-1w, was plugged back to 2,932-73 feet, making 4,000,000 feet of gas; total depth 3,470 feet.

### Reno County

Skelly Oil Co. and others' No. 2 Frantz, NE cor. NW Section 2-24-4w, was plugged back to 3,290-3,398 feet, making 192 bbls.; total depth 3,845 feet.

### Rice County

Lebow and others' No. 1 Callis, SW cor. SE Section 16-19-9w, made 114 bbls. from 3,222-40 feet.

### Sedgwick County

Shell Petroleum Corp.'s No. 5 Lygrisse, SE cor. NE NE Section 15-26-2, is a rig.

### Woodson County

Oko Oil Co.'s No. 3 Otto, CWL NW NW Section 21-23-14, is a machine. Spencer and others' No. 1 Werdie, NW cor. Section 5-24-15, was drilling at 1,400 feet.

# Wharton County Deep Test Center of Interest; Conroe Adds 12 Wells, 20 New Locations

By NEIL WILLIAMS
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Jan. 16.—Developments on the Gulf Coast the past week reflected the general activity which has been under way for several months. Among the fields, Conroe continued to hold the spotlight but good wells were brought in at a number of other fields. In wildcat operations, Smith and associates' deep test, located on Shell Petroleum Corp.'s "Lake View" prospect in Wharton County, was the center of interest at the close of the week with efforts being made there to make a well and open another new field. Additional wildcatting is starting up, including several tests in areas which already have given promise of new production and areas which have been watched closely.

The outcome of the Smith well, No. 1 Mitchell, located in the H.&T.C. Survey No. 8, north of El Campo, Wharton County, at this time is uncertain although the test has given sufficient evidence to justify the belief that a new field exists in that district. As this is written the well is standing shut in with 1,000 feet of fluid in the hole with pressure of 420 pounds. The fluid shows 75 per cent fresh water and 25 per cent distillate. Completion of a well is prevented as it is believed bottom of the hole has heaved in around the screen which will necessitate pulling, cleaning out and resetting.

This test, which showed considerable gas pressure during drilling, was taken to a total depth of 6,442 feet and 7-inch casing was run to 6,279 feet. After drilling of plug 107 feet of 2½-inch screen was swung in the hole on the bottom of 6,279 feet of tubing (total screen and tubing being 6,386 feet, leaving 56 feet of open hole below the screen. When washed the hole caved in keeping the well from flowing. Later it made a head of about 6 bbls. of distillate which is thought to have channeled through and then the well was closed in.

A number of sands have been passed up by this well and it is possible that in at least two, one at 3,064-3,121 feet and another at 3,170-3,208 feet, a gas well could have been completed. From those depths on down, the test has been showing much gas. In event of failure at the present depth of 6,442 feet, the hole probably will be deepened as the casing was set more to protect the hole for deeper drilling than to test the gas showings.

### Fire at Conroe Well

At Conroe, Standard Oil Co. of Kansas' No. 1 Madeley furnished a diversion from regular field developments when it blew out, cratered and caught fire. After a week, the well Sunday was still out of control and burning from a crater estimated at 300 feet in diameter. Pressure, however, has diminished somewhat and it is possible that the well may kill itself. The well blew out from between the production string and surface casing while it was being brought in at a total depth of 5,119 feet. The blowout is believed to have come from the upper gas horizon which the flow string cased off in the completion of the well from the lower oil pay. It soon cut off the control head and christmas tree and started caving around the pipe, some of which was blown 2,000 feet from the well. The enlarging crater swallowed the derrick and rig. On Thursday the well caught fire. The production is mostly gas, although late in the week the smoke indicated oil production was increasing. Because of the hazard, all offsets, both producing and drilling, as well as other wells in that immediate part of the field have been shut down.

### New Producers

Twelve new producers were added to Conroe bringing the total number of producers to approximately 130. The completions were largely offsets and were of no particular significance so far as extensions were concerned. One of the wells, Humble Oil & Refining Co.'s No. 1 Emory, W.C.R.R. Survey, however, was an outside location being on the extreme east end of the present producing limits. It came in flowing at the rate of 103 bbls. per hour through a half-inch choke from the sand at a total depth of 5,152 feet. Humble Oil & Refining Co. also completed its No. 2 Moore, east offset to Alpha Oil Co.'s No. 1 Keystone Mills, Lemuel Smith Survey, which several weeks ago extended production of the field a couple of miles southwest.

### Twenty New Operations

More than 20 new operations were started up at Conroe during the week as development continued to expand and at the close of the week 18 additional wells were preparing to test or were standing cemented on the sand. Completion of several of these, however, will be delayed pending the killing of Standard's Madeley well fire.

The territory extending westward and south and also eastward from Conroe is continuing the most active lease and royalty play along the Gulf Coast. New wildcats which have been started on blocks west and south of Conroe within the past several weeks have given impetus to this activity, which is extending southwestward 15 or 20 miles into northern Harris County. In the latter county Humble Oil & Refining Co. is among the active buyers and is reported to have taken leases amounting to thousands of acres in two different places.

### Harris County

In the Huffsmith area of northern Harris County, Mills Bennett Production Co. is rigging up for a deep test, No. 1 G. H. Klepple, located out of the northwest corner of the March Survey. This wildcat is approximately 3 miles south and west of Indian Hill Oil Co.'s No. 1 Schweinle, Williams White Survey, which test precipitated a little lease and royalty play in October and November when it encountered important gas showings in a broken sand from 5,514-80 feet. The sand was identified as the Cockfield, the same as that from which the Conroe Field, 15 miles to the northwest, is producing. The showings were sufficient to warrant Mills Bennett Production Co. assisting the Indian Hill Oil Co. in carrying the hole down to 6,110 feet to "look at the bottom." Among the lease purchasers at that time were Gulf Production, Kirby Petroleum Co., United Gas Co. and Mills Bennett Production Co. Since then some reflection shooting has been done in the area, resulting in the present new location.

Between the Huffsmith area and Conroe three wildcats now are drilling, including Continental Oil Co. and Julius Fohs' No. 1 Rock Creek Lumber Co., J. Foster Survey, down 3,500 feet; Mound Creek Oil Co.'s No. 1 John Sealey, Sealey Survey, which has just spudded, and R. L. Sprinkle's No. 1 Rohlfs, H. Prosens Survey, cemented surface pipe at 350 feet.

In the immediate Conroe district considerable trading was reported, particularly on the part of the Atlantic Oil Producing Co. and the Standard Oil Co. of Kansas, both of which companies have been active in trying to acquire additional acreage at Conroe. Atlantic purchased from D. D. Bruton, Houston operator, 100 acres of 998 acres in the B.B.&C. Survey, Abstracts 110 and 111. Standard Oil Co.'s purchases were largely royalties and interests in various leases in the Ransom House and Lemuel Smith Surveys. Sun Oil Co. has leased from J. T. Bertrand and associates 120 acres of the 184.5-acre tract in the Bartley Murray Survey, Abstract 343. Heep Oil Corp. has assigned to North Star Oil Corp. an undivided half interest of a seven-eighths interest in 10 acres in T.&N.O. Survey No. 14. Standard Oil Co. of Kansas has leased from A. M. Cannan 45 acres in the C. A. West Survey. J. S. Abercrombie of Houston has purchased from the Iroquois Oil Co. 104 acres in the Wilson Strickland Survey.

### Liberty County

In northern Liberty County The Texas Company has just leased approximately 1,100 acres centering in the Oliver Williams Survey, paying a reported $2 per acre. Northern Liberty County has been figuring for several months in a leasing play, in which virtually all available acreage now has been taken. Shell Petroleum Corp., Humble Oil & Refining Co., Gulf Production Co. and Sun Oil Co. have been among recent lease purchasers.

### Sunshine District

The Sunshine district of southern Polk County, also located along the "Conroe trend" and where another Eocene field is in the making, is getting another important test in Harrison & Abercrombie's No. 1 Carter (588 acres), which late in the week has cemented 10-inch surface pipe at 962 feet. This wildcat is in the northwestern part of the John Sweeney Survey, which is southeast of Dick Schwabb's gas well in the A. Viesca Survey, which was completed a couple of months ago in a Cockfield sand at 4,311 feet. That well, which has been standing shut in with a pressure of 1,475 pounds, is similar to early wells in the Conroe Field. Dick Schwabb and Shell Petroleum Corp.'s second test, 1,050 feet west and south of the discovery well, has been plugged back to 4,341 feet preparatory to drilling a new hole to the pay in which it has been trying to shut off water for the past month. The Harrison & Abercrombie test is on a block of approximately 9,000 acres comprising the W. T. Carter & Co. property acquired shortly after the discovery gas well was completed.

### Tyler County

Republic Production Co. and Houston Oil Co.'s No. 1 Sterne fee, Spurger district of eastern Tyler County, set 6 feet of 5-inch screen in a sand at a total depth of 4,694 feet. It was bailed down 3,000 feet and failed to flow and now is standing. This well, the first on the

(Continued on Page 63)

## Gulf Coast Fields and Wildcats

Week Ending January 14

**RACCOON BEND—AUSTIN COUNTY**

| Company, farm and location— | Remarks: |
|---|---|
| Humble O. & R. Co.'s No. 4 S. E. Helmuth, Wm. Harvey Sur. | Drlg. shale and lime 1,150 ft. |
| Humble O. & R. Co.'s No. 9-A Walton, W. C. White Sur., 150 ft. SW of N cor. of 50-ac. tract and 181 ft. SE parallel to NE line | Derrick. |
| Humble O. & R. Co.'s No. 11 Woodley, Wm. Harvey Sur., 412 ft. out of S cor. of tract | Location. |

**DAMON MOUND—BRAZORIA COUNTY**

| | |
|---|---|
| Intercoastal Oil Co.'s No. 10 Wisdom, A. Darst Sur., 440 ft. from NW line, 170 ft. from SW line of tract | Resetting screen 3,539 ft. |
| A. W. Speed's No. 1 D. F. Bryan, A. Darst Sur., 105 ft. from N line, 65 ft. from W line of lease | S.D. 1,051 ft. |
| Sinclair Prairie Oil Co.'s No. 2 Mock (W.O.), A. Durst Sur. | Pulling screen 3,607 ft. |
| H. Wisdom's No. 1 Wisdom, 50 ft. from SE line, 75 ft. from SW line of Blk. 5, Lot A. A. Darst Sur. | Tested S.W. 1,045 ft. |

**MANVEL—BRAZORIA COUNTY**

| | |
|---|---|
| Alpha Oil Co.'s No. 1 W. H. Nichols, H. M. Little Sur., 200 ft. W, 200 ft. N of SE cor. of tract | Drlg. sticky shale 3,754 ft. |
| R. A. Gamble et al's No. 1 Sherwood, Lot 15, Allison-Richey Subd., H. N. Little Sur. | Location. |
| The Texas Co.'s No. 4 Belcher, Harvey Little Sur., 2,900 ft. S, 42 deg. W, 400 ft. S, 48 deg. E, out of N cor. of lease | Drlg. gumbo and lime 2,738 ft. |

**WEST COLUMBIA—BRAZORIA COUNTY**

| | |
|---|---|
| The Texas Co.'s No. 6 Abrams (W.O.), Geo. Tennille Sur. | Cutting and pulling liner 2,956 ft. |

**BARBERS HILL—CHAMBERS COUNTY**

| | |
|---|---|
| Humble O. & R. Co.'s No. 1 Kirby, Henry Griffith League, 208 ft. from S line, 100 ft. from E line of lease | Salt 3,985 ft; fishing bit. |
| Mills Bennett Prod. Co.'s No. 1-C Gulf fee, Wm. Bloodgood Sur., 150 ft. N of Gulf's No. 1 Fisher fee | Drlg. sand and rock 4,690 ft. |
| D. B. McDaniels' No. 6 Wilburn, Henry Griffith League, 240 ft. W of No. 5 | Sand 4,258-77 ft; cmtd. 9⅝-in. csg. 4,240 ft. |
| Sinclair Prairie Oil Co.'s No. 2 Smith (W.O.), W. D. Smith Sur., 39 ft. from N line, 50 ft. from E line of 30-ac. tract | Drlg. sandy shale 6,284 ft. |
| Sinclair Prairie Oil Co.'s No. 13 Wilburn, Henry Griffith League, 150 ft. W of No. 11 | Set 50 ft. of screen 4,307 ft; cleaning self; no gauge. |
| Sun Oil Co.'s No. 15 J. Wilburn, Wm. Hodges Sur., 343 ft. from N line, 420 ft. from W line of lease | Drlg. shale 3,931 ft. |
| The Texas Co.'s No. 2 Lawrence fee, Henry Griffith League, 740 ft. W of E line in center of tract | Drlg. salt 2,795 ft. |
| The Texas Co.'s No. 9 Wilburn, Henry Griffith League, 580 ft. E of NW cor. and 50 ft. S of N line | Cmtd. cavity 1,210 ft. |
| Texas Gulf Prod. Co.'s No. 3 Tarbutton, Henry Griffith League, 746 ft. from E line in center of tract | Set 45 ft. 10 in. of 5-in. screen 4,060 ft; comp. flowing 52 bbls. per hr.; 160 lbs.; ¾-in. choke. |

(Continued on Page 67)

# Miller County, Ark., Test Rather Discouraging; Good Producer Completed in Zwolle Field

By D. H. BANCROFT
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Jan. 16.—The first set-back to encouraging developments in Miller County, Arkansas, since completion of a commercial producer December 21 occurred this week when Baker & McMurray's No. 1 Olivet, NW NE, Section 4-16-26, an offset to the producer, tested dry at 2,930 feet. However, after making a few feet more hole and running drill stem test again, it developed 10 fourbles of oil and 4 of salt water in 20 minutes. The discovery well claimed 12 feet of sand and this one is variously reported to have taken 16 to 20 feet. Surface elevations of both are approximately the same. Duluth-Arkansas' No. 1 H. E. Beck, NW SW Section 34-15-26, had a small show of oil and gas on drill stem test at 2,942 feet and was washing to bottom. Hapgood and others' No. 1 S. F. Rose, NE SE, Section 7-16-26, topped the Nacatoch at 1,274 feet and was drilling at 1,400 feet. Five new locations were announced during the week so the rather disappointing test on the Olivet does not necessarily mean that Miller County has lost its attraction.

The best well in the Zwolle Field, Louisiana, for several weeks was completed when Pelican Natural Gas Co.'s No. 18 Louisiana Long Leaf Lumber Co. was reported flowing 1,000 bbls. from 2,252 feet with 6-inch cemented on top of the marl at 2,220 feet. It blew in unexpectedly.

### Six Completions Reported

A. E. Roscoe and others are reported to have cored 16 feet of sand in the Woodbine on No. 1 Vever Towell in the H. L. Eldrodge 340 acres of the Lewis Watkins Survey at Woodlawn in Harrison County, Texas, with a total depth of 3,016 feet.

Completions in the territory during the week totaled six—two producers in Zwolle, a dry hole in Union Parish, Louisiana, and another in Miller County; a gas well in the Blanchard district of Caddo and another in the Hinds County side of the Jackson Field in Mississippi. Sixteen new locations were reported, one in Beauregard Parish, Louisiana, in the Conroe-Jackson trend play, one in Bienville Parish, one in Morehouse, one in Natchitoches, one in the Converse area of Sabine Parish and four in the Zwolle district. Five were reported from Miller County, Arkansas, one from Sunflower County, Mississippi, and one, a wildcat, in Hinds County, Mississippi.

Henderson Oil Co., of El Dorado, Ark., is reported planning a 3,600-foot test in Section 1-18-16 in the southwest corner of the old Smackover Field, and there is also some talk of another deep test in Smackover, to go to 8,000 feet, for which financing is well under way.

### NORTH LOUISIANA

Completions in this part of the territory were: Calatex Oil & Gas Co.'s No. 1 Esther Agurs, SW SW, Section 9-16-16, Caddo Parish, 7,000,000 feet of gas, total depth 2,975 feet; C. D. Neff's No. 2 Snell, SE SE, Section 9-7-11, Zwolle, flowing 35 bbls. by heads through tubing from 2,588 feet; Pelican Natural Gas Co.'s No. 18 Louisiana Long Leaf Lumber Co., NE NW, Section 31-8-11, flowing 1,000 bbls. from 2,252 feet; and Wong Hing, trustee's No. 1 Union Sawmill Co., SE SE, Section 15-22-1e, Union Parish, salt water at 3,014 feet.

New locations in North Louisiana were Trapp & Turnbow's No. 1 S. T. Roberts, NW NE, Section 6-3-10, Beauregard Parish, a second location on their DeRidder block; Granver Oil Co.'s No. 1 T. J. Lawhon, NE SE, Section 15-16-8, Bienville Parish; H. D. Samson's No. 1 Barnes & Sullivan, 330 feet west of center of Section 12-21-7 (NE cor. SW of section), scheduled to go 3,600 feet to test a block of nine sections; Sampson and others' No. 1 Friedman estate, SW cor., Friedman estate land in Section 52-7-6; Lambert and others' No. 1 Edwards, SW NW, Section 29-9-13, Converse area of Sabine Parish; Lowery & Green's No. 1 Adair, SE SW, Section 19-8-11, Zwolle, derrick; Pelican Natural Gas Co.'s No. 19 Louisiana Long Leaf Lumber Co., SE SE, Section 33-8-11, Zwolle, derrick; Lion Oil Refining Co.'s No. 1 Trammell, SE NE, Section 30-8-11, Zwolle, derrick; and Ben F. Smith's No. 4 Turner, NE NW, Section 4-7-11, Zwolle, derrick.

Fred McAneny and T. E. Bird have assembled 3,000 acres 6 miles south of Shreveport on the edge of the old Cedar Grove gas field and will make location during the next two weeks for a test in Section 12-16-14, the center of the block, to go 2,600 feet. There is good geology and machine tests on the acreage and with the history of the old Cedar Grove gas field behind it, it is looked upon with some favor.

Evans Brothers' No. 1 Cranford, SE SE, Section 20-9-13, Sabine Parish, drilling at 800 feet, also will be more or less closely watched because of its proximity to the Foster and the Langbridge wells that made oil and gas in commercial quantities a year or so ago. The owners advise they "expect to set 8-inch at 1,500 feet without coring ahead" so sure are they that they will hit the pay tapped by the other two wells.

Bolinger & Walker, drilling No. 1 Thompson, SE SW, Section 16-22-14, Caddo Parish, east of the eastern extremity of Hosston production, topped the Nacatoch at 1,460 feet (corrected depth), tested salt water from 1,466-1,511 feet and are drilling at 1,717 feet. Jack Whitson, drilling No. 1 Sanders in SW SW, Section 19-11-13, DeSoto Parish, the first well on which acid treatment was tried in this territory, cemented 6-inch at 2,713 feet, to test 4 feet of sand showing oil at 2,750 feet.

Frank Foster's No. 1 Gaddis, NE NE, Section 20-9-11, Sabine Parish, with the top of the chalk at 1,795 feet and the base at 2,090 feet and drilling shale at 3,042 feet, is checking with the original producer. Kilgore and others apparently have a dry hole in Zwolle with No. 2 Thomas, drilling at 2,583 feet after dry tests at 2,319 and 2,483 feet. His No. 2 Snell in SE SE, Section 9-7-11, being a producer, C. D. Neff is rigging up No. 1 on the same lease to deepen after a test at 2,500 feet failed to respond. J. H. Warlick will deepen No. 1 Brown Lumber Co., NW NE, Section 31-8-10, after a dry test at 2,600 feet.

E. S. Goens' No. 1 Frost Lumber Co., SE SE, Section 7-22-2e, Union Parish, topped the Cane River at 735 feet, and got sand showing gas on coring at 1,045-48 feet. Wingfield and others' No. 1 U. S. M., SW SW, Section 27-23-1e, was dry on drill stem test at 2,390-2,404 feet and is drilling below 2,410 feet. R. E. L. Silvey's No. 1 Drake estate, NE NW, Section 14-19-10, Webster Parish, was on top of the chalk at 2,369 feet (corrected depth) and out of it at 2,635 feet and is shut down in shale at 2,794 feet.

### ARKANSAS

Beside the rather disappointing test on the Baker-McMurray offset to the discovery well, Miller County had a very salty test in Steen Drilling Co.'s No. 1 Head, SW SW, Section 20-15-26, approximately 6 miles southeast, which was abandoned at 3,010 feet after the test at 2,960 feet. New locations in Miller were: J. M. Burnham's No. 1 E. L. Beck, SW NE, Section 33-15-26; John DeGrazier's No. 2 Andrew Rose, NE NE, Section 4-16-26; Molar Oil Club's No. 1 A. M. Gibson, SW SW, Section 30-18-27, derrick; R. M. Olds' No. 1 E. D. Olivet, NE SW, Section 4-16-26; and A. C. Taylor's No. 1 Williams, SW NE, Section 5-16-26. B. F. Thompson's No. 1 Rosser, SE SE, Section 7-5-2w, Woodruff, reported abandoned, in error, is drilling at 732 feet.

### MISSISSIPPI

The Jackson gas district registered one completion in the Hinds County side, United Gas Public Service Co.'s No. 1 Ed Fondren gauging 28,000,000 feet of gas from 2,542 feet. One of the two new locations in Mississippi also is in Hinds County, a wildcat, Lionel Petroleum Co.'s No. 1 J. L. Gaddis, NW NW, Section 7-7-3w, for which derrick is up. B. B. Jones is drilling at 3,959 feet on No. 1 Bank of Philadelphia, SE SE, Section 35-3n-12, Jasper County; and Eastman-Gardiner Lumber Co.'s first test on their fee holdings in Covington County, No. 1 Eastman-Gardiner Minerals fee, NE NW, Section 29-19-6, is in shale at 400 feet after setting 13-inch surface string at 311 feet.

### EAST TEXAS BORDER COUNTIES

Late in the week there came a report that A. E. Roscoe and others had cored 16 feet of Woodbine sand on No. 1 Vever Towell in the H. L. Eldridge tract of the Lewis Watkins Survey of Harrison County, near Woodlawn, in East Texas, at 3,600-16 feet but at this writing it had not been verified and scouts were trying to locate the core that was supposed to have been brought to Shreveport for study. The core was reported to have a strong odor of oil. Starling & Preston ran drill stem test on No. 1 Henderson in the R. Bennington Survey 3 miles north of Jefferson in Marion County and got nothing at 1,930-2,050 feet after topping the chalk at 1,956 feet and were drilling chalk and shale at 2,250 feet. General Minerals Co.'s No. 2 Pickering in the D. L. Height Survey, which created a ripple of excitement last week by a reported show at 3,900 feet, was still waiting for casing to make a test.

### Production Declines

Daily average runs from the field showed a decline of 760 bbls. from the district. Daily average runs from the several pools were:

| | |
|---|---|
| **NORTH LOUISIANA** | |
| Caddo, light | 4,145 |
| Caddo, heavy | 1,735 |
| Cotton Valley | 670 |
| DeSoto-Red River | 1,750 |
| Elm Grove | 365 |
| Haynesville | 3,820 |
| Holly | 230 |
| Homer | 3,690 |
| Pleasant Hill | 310 |
| Sarepta-Carterville | 750 |
| Urania | 3,300 |
| Zwolle | 8,730 |
| Total | 28,495 |
| Last week | 29,210 |
| Decrease | 715 |
| **ARKANSAS** | |
| Champagnolle | 1,550 |
| El Dorado | 2,640 |
| Lisbon | 450 |
| Miller County | 350 |
| Nevada County | 900 |
| Smackover, light | 2,680 |
| Smackover, heavy | 22,810 |
| Stephens | 250 |
| Urbana | 570 |
| Total | 32,200 |
| Last week | 32,245 |
| Decrease | 45 |
| Both states | 60,695 |
| Last week | 61,455 |
| Decrease | 760 |

## Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

### North Louisiana

**AVOYELLES PARISH**

| Company, well, farm name, section and block— | Remarks: |
|---|---|
| T. J. Woodley, tr.'s No. 1 Thompson & Kolts, 2,640 ft. E, 200 ft. S, NW cor. Sec. 11-3n-6e | S.D. 2,250 ft. |

**BEAUREGARD PARISH**

| | |
|---|---|
| Trapp & Turnbow's (was Trapp Oil Synd.) No. 1 Long-Bell Lbr. Co., Sec. 26-2s-10 | Rigging up. |
| Trapp & Turnbow's No. 1 S. T. Roberts, 150 ft. S and E, NW cor. NW NE Sec. 6-3-10 | Location. |

**BIENVILLE PARISH**

| | |
|---|---|
| Granver Oil Co.'s No. 1 T. J. Lawhon, 150 ft. N and W, SE cor. NE SE Sec. 15-16-8 | Location. |
| M. H. Marr et al's No. 1 Caldwell, 450 ft. E, 150 ft. N. center Sec. 32-16-8 | Derrick. |
| R. S. Rose et al's No. 1 W. M. Beck, NE NE Sec. 3-18-8 | Rig up. |
| Texana Oil Co.'s No. 1 Lawson, 180 ft. W, 600 ft. S NE cor. NW NE Sec. 28-16-9 | Drlg. 550 ft. |

**BOSSIER PARISH**

| | |
|---|---|
| Breazelle & Steckoll's No. 1 Nattin, C SW NE, Sec. 15-23-14 | Set 6-in. 2,967 ft; swabbed; show oil and gas 3,018 ft; S.D. |
| Breazelle & Steckoll's No. 2 Nattin, 300 ft. S and W, NE cor. NW NE Sec. 22-22-14 | Moving in rig. |
| Cryer Oil Co.'s No. 1 fee, 2,400 ft. N, 1,080 ft. E, SW cor. Sec. 25-19-13 | Derrick. |
| A. W. Phillips, tr.'s No. 1 Oden, 300 ft. W, 150 ft. N, SE cor. NW NW, Sec. 4-18-13 | Cored 12-ft. sand showing oil; W. O. 1,017 ft. |

**CADDO PARISH**

| | |
|---|---|
| Bolinger & Walker's No. 1 Thompson, SE SW Sec. 16-22-14 | Tested S.W. 1,466-1,511 ft; drlg. 1,717 ft. |

**CLAIBORNE PARISH**

| | |
|---|---|
| Loue Oil Co.'s No. 1 Kiner, Sec. 2-21-7 | Rigging up. |

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# Ten Completions Are Reported in Central Ohio; Kentucky Showing Gain in Completions

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Jan. 16.—The old Lima Field of northwestern Ohio is the only field that failed to report a completion in the Central West Field during the week. Wood County has one well under way, Hancock County one, Allen two, Auglaize three, Sandusky County three, Lucas County 2 Ottawa one, Seneca County 5 and Wyandot County four. Most of these wells will be under way again within a few days.

Central Ohio as usual brought in a good number, 10 completions. Indiana heads the list with 14 completions, with but one oil producer, which produced 100 bbls.; four gas wells, with a volume of approximately 10,000,000 feet, and nine dry holes. Illinois reported but one well, a very light pumper, in the Centralia Field of Marion County.

Kentucky reported eight completions, five being oil wells with an initial of 161 bbls., one gas well and two dry holes.

### CENTRAL OHIO

Ten completions were reported from the Central Ohio Field proper, two being oil wells with an initial of 8 bbls., one dry hole and seven gas wells. In Lorain Mounty, McMillan and others drilled a gas well in a second test on the Frank Kovarik farm, in Lot 95, Eaton Township, in the Clinton lime from 2,433-54 feet.

In Fairfield County, the Blume Oil & Gas Co. is drilling No. 3 on the J. J. McCandlish farm, Section 26, Rush Creek Township.

In Coshocton County, Pike Township, W. E. Stevens' No. 3 on the Henry Noland farm, Section 12, Pike Township, is reported with an initial of 5 bbls. at from 3,204-65 feet. The Preston Oil Co. is drilling No. 3 on the F. M. Donaker farm, Section 6, Perry Township, and Murphy and others have a rig in for a second test on the Ward Little farm, Section 17, same township.

In Licking County, Perry Township, McClay Brothers' No. 5 Everett Hoover farm, Section 3, pumped 3 bbls. initial from 2,777 to 2,832 feet.

The only change in Muskingum County was the building of a rig by the Wittmer Oil & Gas Co. on the Jemima Miller farm, Section 11, Washington Township.

In Tuscarawas County the Hopewell Oil & Gas Co.'s test on the E. Hursey and others farm, Lot 29, Washington Township, was dry in the Niagara lime at 3,645 feet.

#### Stark County

In Stark County, the most active county in the Central Ohio area, four gas wells were completed: East Ohio Gas Co.'s No. 2 on the Edward A. Frank farm, Section 14, Jackson Township, in the Clinton lime at a total depth of 4,431 feet; Brendal Producing Co.'s No. 1 on the Albert Tesch farm, Section 22, in the Clinton at a depth of 4,422 feet; Fulton Oil & Gas Co.'s No. 4 on the Henry C. Rudy farm, Section 6, same township, in the Clinton at 4,202 feet, and W. F. Shetler's test on the A. L. Funk farm, Section 22, same township, at 4,352 feet. Eleven other wells are drilling in Jackson Township, while in Plain Township, same county, four rigs are up and two wells drilling. In Lawrence Township, same county, McClay Brothers are drilling on the E. and M. Luthia farm, Section 23 in Marlboro Township. Brendal Producing Co. is drilling on the Diamond Portland Cement Co.'s land in Section 31, Marlboro Township, same county. The Plain Natural Gas & H. Co. is drilling on the John Marquardt farm, Section 8, Plain Township, Stark County.

In Belmont County, W. G. Fulton and others have a light gas well on the N. E. Slavin farm, Section 27, Somerset Township, at a shallow depth of 1,957 feet. A. C. Peters and others are drilling on the John Pekario farm, Section 26, same township. Bradfield and others struck a gas pay sand in the Second Cow Run sand, but are gonig deeper in No. 3 on the John Shutway farm, Section 35, Union Township, same county.

In Guernsey County, J. F. Roach's No. 2 on the Jennie Ross farm, in Section 35, Oxford Township, is a light gas well in the Berea sand at 1,464 feet. C. C. Wharton and others are drilling No. 2 on the A. C. and Mary J. Linn farm, Section 9, Westland Township, same county.

#### Offside Completions

Pure Oil Co. is bailing salt water in No. 3 on the Scott-Hammond farm, Section 3, Brush Creek Township, Muskingum County, at 3,706 feet.

Ohio Fuel Gas Co. reports a dry hole in No. 1-5,698 on the D. E. Nihiser farm in Sections 2 and 11, Benton Township, Hocking County, at 2,607 feet. In Rutland Township, Meigs County, the same company has a gas well in No. 1-5,702 on the J. A. Scott farm, Section 5. F. O. Royalty Co. has a light gas well on the N. O. Heilman farm, Section 36, Salisbury Township, same county in the Maxon sand at 1,079 feet. In the same township Delong and others are drilling around 600 feet on the Mary E. Tracy farm, Section 35. Star Mills Co. is having trouble with casing at a second test on the Rena N. Karr farm, Section 11, Sutton Township, same county. Joe Rubin has a fishing job at No. 2 on the Emerson G. Harper farm, Section 27, Salisbury Township, same county. French & Jones are drilling around 900 feet in No. 3 on the Morton French farm, Section 8, Scipio Township, same county.

I. C. Robinson is reported fishing at 800 feet in No. 3 on the Alvin D. Cline

(Continued on Next Page)

# Fifth Well in New Belmont County Gas Pool; Fair Number Drilling in West Virginia

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Jan. 14.—A fifth fair gas well completed in the new pool in Belmont County, Southeast Ohio. furnished about the only feature in the Eastern fields for the week. In Union Township, about 3 miles southwest of Flushing, Bradfield & Hardwick completed a second test on the John Shutway farm in the Salt sand at a depth of 1,085 feet. It gauged about 1,000,000 feet a day initially, the same as the No. 1 on this farm. None of the wells have been smaller and one started as high as 1,750,000 feet. In Section 29, same township, the O. K. Oil & Gas Co. has a second test drilling on the Alice Adams farm which is about due in the sand. In Richland Township, the scene of four fair producers in the Berea sand at a depth just short of 2,000 feet, John Lockary has a test drilling on the Lockary farm.

Again there were few completions in the three districts of the lower Eastern fields. One gas well in Southeast Ohio with two tests coming in dry, two gas wells and one producer in West Virginia, and no completions in Southwest Pennsylvania made a small total which added little to an already oversupplied field.

### SOUTHEAST OHIO

In Muskingum County, the Ohio Fuel Gas Co. drilled No. 3 on the Carrie Staker farm in Section 10, Brush Creek Township, which had been hung up by a fishing job, through the Clinton sand to 4,290 feet. It proved to be a dry hole, though the other three wells on the farm were fair gas wells, No. 4 being good for 750,000 feet a day.

In Tuscarawas County, the Hopewell Fuel Gas Co. drilled a test on the Ella Bowen farm, Lot 29, Washington Township, through the Niagara lime to 3,643 feet. The test proved dry with a showing of but 5 feet of sand.

#### Drilling in Ohio

In Coshocton County, the Preston Oil Co. has a rig standing for a third test on the F. H. Donaker farm in Section 17, Perry Township. In the same section, the Murphy Petroleum Co. and others have a rig standing for a second test on the Ward A. Little farm. In Clarke Township, Lot 8, the Mehowa Oil & Gas Co. has made a location on the Sol Haun farm and in Holmes County, and these operators are ready with a rig on the B. J. Ulrick farm, Section 25, Hardy Township.

In Muskingum County, the Pure Oil Co. has No. 3 drilling on the C. W. Scott farm in Section 10, Brush Creek Township, which is due in the sand, having passed the 4,000-foot level. In Licking County, the Emerald Petroleum Co. and others have passed the 1,000-foot depth on the Mossholder heirs' farm in Section 17, Fallsbury Township. In Newton Township, Lot 3, G. F. Early and others have a rig standing on the Davis P. Hall farm which will probably be drilled to the Berea sand only. No further work has been done at the rig standing for No. 5 on the Felix Claypool lease No. 2 in Section 7, Hanover Township.

In Fairfield County, the Blum Oil & Gas Co. is down about 2,400 feet in No. 3 on the J. J. McCandlish farm, Section 26, Rush Creek Township. In Knox County, H. E. Perkins and the Upham Gas Co. have started drilling on the Ross Hunter farm in Section 26, Union Township. In Monroe County, Norman Thomas and others are drilling on the Thomas farm, Section 32, Center Township, which has passed 1,700 feet.

In Noble County, W. M. Patten and others have started No. 11 on the Austin Cunningham farm in Section 14, Olive Township. In Section 32, Enoch Township, Harper Brothers found the Macksburg 500-foot sand dry in a second test on the Marion Harper farm at 591 feet, and may drill deeper. In Elk Township, the Scott Oil & Gas Co. started on the Friend Rohrer farm, Section 21, and ran into a fishing job at 160 feet.

In Athens County, Robinson Brothers are down 700 feet in a second test on the H. M. Stanley farm, Section 13, Lee Township.

In Washington County, Burt & Burt are drilling on the L. C. Burt farm, Lot 1,081, Palmer Township, at 250 feet. In Fearing Township, T. C. Robinson & Brother are drilling on the William Templeton farm at 1,300 feet. C. A. Frantz and others have shut down at 1,300 feet in a second test on the J. W. Taylor farm, Section 9, Liberty Township.

### WEST VIRGINIA

Two gas wells and one producer was the total of the week in West Virginia and although a fair number of wells are drilling, no great increase in completions is expected for about two weeks. The producer was the McCall Drilling Co.'s No. 7, on the Fletcher H. Stout farm in Center district, Gilmer County. Instead of a gas well, it was drilled down to the Maxon sand, a depth of about 1,800 feet, and is showing for about 8 bbls. a day.

#### Gas Wells

In DeKalb district, Gilmer County, James A. Tierney drilled his No. 2 on the F. G. Hardman farm to the Injun sand at 2,089 feet. It made a better showing in this formation and rates about 300,000 feet a day. In Lincoln County, the Harvard Gas Co. completed its No. 3 on the Standard Natural Gas Co. lease in Washington district at 2,200 feet. It is a very light gas well with a showing for about a half barrel of crude a day.

#### New West Virginia Work

In Cabell County, new work includes a test by the Northpole Ice Co. on its property in Guyandotte district which is drilling at 400 feet. In the same section, the Huffman Oil & Gas Co. is drilling on the Darnell and Johnson lease. It is 800 feet deep. Older work in this district included the test of C. C. Wolfe and others on the Calhoun and Justice farm which is shut down at 3,000 feet with a fishing job. The Cisco Drilling Co. is 1,200 feet deep on the Ed Bull farm. The Guyan Valley Gas Co. has reached 1,580 feet in a second test on the C.&O.R.R. property. In McComas district, D. R. Campbell and others have

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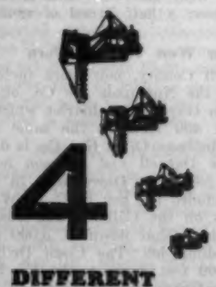

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shut down at 1,400 feet on the Gilbert Holton farm.

Indications point toward renewed activity in Calhoun County. In Washington district, C. B. Lewis is close to the sand in a second test on the Louie Hamilton farm. In Lee district, F. F. McIntosh is drilling at 1,350 feet on the S. A. Hays farm. In Sherman district, H. B. Scott has a location for a second test on the Board of Education property. McCall and others are down 1,500 feet on the William Poling farm. Creed Barker and others have the materials on the Bert Fowler farm and is building a rig on the H. Johnson farm. In Sheridan district, Roy Waggoner and others are fishing for the reamer in a second test on the Clay Chenowith farm, and the hole is 1,820 feet deep. Ira Haught has a rig on the Alva Elder farm, and L. B. Carroll, one on the Pell Shank farm. The Hope Construction & Refining Co. is down 1,545 feet in No. 3,551 on the Elza and Newton Criss farm.

### Ritchie County

In Ritchie County, the Lucky Strike Oil Co. is building a rig for a second test on the L. E. Robinson farm, Clay district. In Murphy district, A. H. Jackson and others are down 1,635 feet on the J. W. Heffner farm, and B. C. Deem is down 1,873 feet on the William McFadden farm. Warren Britten and others are about due in on the United Brethern lot. In the same district, W. A. Bickerstaff is reaming at 750 feet on the Morris and Grimm farm. In Grant district, Russell Morris and others have shut down at 1,000 feet on the J. E. Hardbarger farm.

In Tyler County, Albert Neeley is drilling at 1,678 feet on the M. E. Smith farm in Meade district. In Pleasants County, Grant district, the Pure Grit Oil Co. is drilling No. 4 on the G. R. Hammett farm. In Wirt County, Glen Roberts is fishing at a depth of 1,540 feet in a second test on the G. W. Roberts farm. Donald Nutter shut down at 1,070 feet his test on the William Hull farm. In Clay district, the Rock Run Oil Co. is fishing at 1,800 feet on the J. E. Leep farm.

Roane County is idle now but the Reedy Oil & Gas Co. is rigging up on the M. L. Santee farm, Curtis district. In Jackson County, the test of H. H. Sheppard and others on the T. C. Burdette farm is still fishing at 870 feet. This is in Washington district.

### SOUTHWEST PENNSYLVANIA

No completions were recorded in Southwest Pennsylvania. Work in this field is extremely slow. A new test in the pool in Amwell Township, Washington County, is of interest. The Union Gasoline & Oil Co. is spudding in to test the A. N. Hathaway farm. This will make a short extension of the pool if a producer.

The deep test of Benedum & Trees and others on the E. E. Knowlton farm in Section 10, Independence Township, Washington County, is making slow progress having been shut down for engine repairs. It is approaching the 7,000-foot level.

In Virginia, the Benedum & Trees test on the Clinchfield Coal Co. tract in Russell County, is making progress having reached over 4,000 feet. In Wise County, their test on the I. Kaufman farm was delayed. At present the hole is being cleaned out after shooting to straighten a crooked hole.

In lower West Virginia, the test on the Pocohontas Coal Co. tract remains shut down with the tools still stuck in the hole.

## Central West Fields

(Continued from Preceding Page)

farm, Section 13, Lee Township, Athens County.

### INDIANA

New completions scattered over nine counties in Indiana totaled 14, one being an oil well with an initial production of 100 bbls., four gas wells and nine dry holes. Operators over the state are making an effort to find oil pools worth while at the present price of crude. The oil well was drilled by Drake and Young, being No. 2 on the Fred Kreiger farm, SW Section 28, Center Township, Vanderburg County, in the extreme southwestern part of the state, the oil being found at 898 feet. This oil is being handled by pipe line to the C.&E.I. Railroad and shipped to Evansville. In the same field the Big Four Oil & Gas Co. drilled in a dry hole at a total depth of 1,480 feet in No. 1 on the Nettie M. Patterson farm, in NE Section 29, same township, while C. M. Root's test on the John A. Kissell farm, NW Section 4, same township, was also a dry hole at a total depth of 1,002 feet. C. M. Root is drilling on the E. A. Swope farm, SW Section 29, same township. Maxwell Petroleum Corp. is drilling No. 1 on the Helen L. Luhring farm, NW Section 28. J. S. Young, Jr., is drilling No. 1 on the Iglehart Milling Co.'s property, SW Section 33. Ellis & Young is drilling No. 1 on the Evansville Airport grounds, SW Section 33. John L. Drake and others are drilling Nos. 3 and 4 on the John and Mary Effinger farm, NW Section 33, all in Center Township, Vanderburg County. In Scott Township, same county, C. J. Weideman is drilling on the W. W. Sipp farm, SW Section 19.

In Gibson County the Wabash Public Service Corp. drilled in a 2,500,000-foot gas well on the G. B. Allen farm, NE Section 22, Columbia Township.

In Pike County Claude E. Noble is drilling on the Helen Smith farm, SW Section 17, Washington Township.

In Daviess County, Hartman and others struck a dry hole on the Sylvester Swan farm, Section 28, Veale Township, at a total depth of 1,303 feet.

In Spencer County the Vans' Oil Co. is drilling No. 6 on the G. A. Grass farm, Section 11, Huff Township, and the Packard Oil Co. is drilling on the Arthur Ray farm, same section.

In Perry County the Interstate Oil Co. drilled a dry hole on the Alvin Franchville farm, in Clark Township, after drilling to the Mississippi lime. Dr. C. C. Talliaferro, Jr., also drilled a dry hole on the Cora Dixon farm, NW Section 11, same township. Charles E. Dice drilled a dry hole in No. 4 on the Mary C. Backer farm, NW Section 13, Troy Township, same county, at a total depth of 725 feet.

Near Fort Wayne the Woodburn Gas Co. drilled in a very light gas well on the Fred Nordon farm, NW Section 34, Maumee Township, Allen County, at a total depth of 1,471 feet.

J. Harve Snider drilled a light gas well on the Sarah Ross farm, in Brandywine Township, Hancock County, and is drilling No. 2 on the same farm.

Sproull & Weisknecht drilled a dry hole on the John Larkin farm, SW Section 19, Perry Township, Martin County.

Ohio Oil Co. and Petroleum Exploration Co. drilled a dry hole on the Owen Harris farm, SW Section 33, Benton Township, Monroe County.

Henry A. Joern is drilling on the Lincoln National Insurance Co.'s land, SE Section 35, Daviess Township, Stark County, and has a rig on the Wanda H. Joern farm, NW Section 26, same township.

J. L. Rosen is drilling on the Neal S. Williams farm, Section 26, Gillam Township, Jasper County. It is in this township that the natural lubricant crude was discovered many years ago, when an English concern drilled hundreds of these shallow holes and some are still showing oil.

### ILLINOIS

Completions are scarce in the Illinois fields, although quite a number of old wells are being abandoned over the once rich producing fields of the state. Only one completion was reported, the Big Creek Oil & Gas Co.'s test in the northwest corner of the E. J. McClelland farm, NE Section 4, Centralia Township, Marion County, which had an initial of 5 bbls. from a total depth of 1,632 feet, the top of the pay sand being struck at 1,626 feet.

In Wabash Township, Wabash County, Henry Loeb abandoned his No. 7 on the Della V. Wright farm, in SE Section 6.

In Lawrence County, Lawrence Town-

ship, the Ohio Oil Co. abandoned old No. 3 on the V. Christensen farm, SW Section 3. In Bridgeport Township, the same company abandoned Nos. 6 and 7 on the Alice J. Abernathy No. 1 farm, SW Section 31. In Dennison Township, same county, the Ohio Oil Co. abandoned No. 18 on the A. B. Jordon No. 2 farm, NW Section 9, and S. J. Owens abandoned No. 1 on the Isadore and Rosa Greenmore farm, NW Section 21, same township.

No reports are forthcoming from the test by the Phillips Petroleum Co. on the W. R. Moss farm, Section 24, Elk Prairie Township, Jefferson County, since the shutdown was made at 2,900 feet. Richard Eke and others are reported being idle on the H. Klair farm, Section 7, Waid Township, Jasper County. Voss and others are reported drilling on the M. Breiner farm, Section 27, Looking Glass Township, Clinton County.

### KENTUCKY

Kentucky showed a slight gain in completed wells, there being eight, of which five were oil producers with an initial of 161 bbls., one gas well and two dry holes. In Ohio County the Creek Drilling Co.'s No. 5, 400 feet from the south line and 200 feet from the west line of the Jim Hatfield farm, in the Barnetts Hill Pool, produced an initial of 20 bbls., while No. 6, 600 feet from the south line and 20 feet from the west line of the same farm, was the best completion for the week with an initial production of 75 bbls. Ernest Porter and others' second test, 600 feet from the north line and 900 feet from the west line of the Sherman-Bellamy farm, in the Maxon Pool, is a gas well.

In Daviess County the Whitmer Oil & Gas Co.'s No. 3, 400 feet from the south line and 800 feet from the east line of the M. D. Wells farm, in the Red Hill district, produced an initial of 25 bbls. The Rex Pyramid Oil Co.'s No. 5, 200 feet from the north and east lines of the M. P. Yeisel farm, in the same pool, proved a dry hole.

In McLean County, E. L. Newton and others' second test on the Henry Northern farm in the Maxwell Pool, produced an initial of 21 bbls. Creek Drilling Co.'s No. 8 on the L. E. Morris farm, in the Barretts Hill Pool, produced 20 bbls. the first 24 hours and Hupp, Duff and others' No. 2 well, 600 feet from the north and 200 feet from the east line of the B. W. Morgan farm, proved a dry hole.

Total runs made from wells served by the Illinois Pipe Line Co. in western Kentucky during December were 108,762.06 bbls.

# Michigan Field Failure Proves Surprise; May Indicate a Break in Structure

By GEORGE A. WHITNEY

MOUNT PLEASANT, Mich., Jan. 14. The drilling in of the Pure Oil Co.'s No. 1, 2,310 feet from the north and east line of the Corwin A. Fergus farm, in the W half NW Section 22, Greendale Township, a short distance southwest from the heart of the East Pool, was a surprise, as it looked like a sure shot, but drilled into water and will probably be abandoned. The Fergus well being a failure apparently defines a break in the producing structure between the Chippewa-Greendale Pool and the Pure Oil Co.'s recently completed commercial producer on the Yost farm, in Section 35, Greendale Township. This would indicate that the Yost is producing in a pool distinct from the old proven area.

The Columbia Oil & Gas Co.'s No. 4, 330 feet from the south and west lines on the M. F. McLaughlin farm, in the SW SW NW Section 15, Greendale Township, showed an initial of 125 bbls., but was treated and produced 700 bbls. in 24 hours.

The Pure Oil Co.'s No. 3-A, on the 60-acre farm of Roland Harnick, in the NW NE NE Section 14, Greendale Township, is being treated with the hope it will develop into commercial production.

Several wells are about due for completion. In Greendale Township, Midland County, the Gordon Oil Co.'s No. 6, 330 feet from the south and east lines of the N. J. Skinner farm, in the SE SE NE Section 16, is almost sure to be completed within a very short period. The Talbot Oil Co.'s No. 1, 330 feet from the south and east lines of the Tope-Talbot farm, in the SE SE SW Section 11, same township, is another close to completion. Detroit interests are also reported in this test. Another well nearing completion is C. Fred White and others' test in the southeast corner of the W. A. Dennis and others' farm, in the SE SE SW Section 3, Chippewa Township, Isabella County. This test is approximately a half mile northwest of production in the Chippewa Pool. It had an oil showing in the Traverse formation.

Nearing completion is the wildcat test of J. G. Tiplady in the southeast corner of the Henry and Susan Laycock farm, in the SE SE NW Section 11, Arcadia Township, Gratiot County, the first test in that part of the field to be carried down to the Dundee formation.

Michigan Gas & Oil Co.'s No. 1, on the Lynch farm, Section 1, Vernon Township, Isabella County, was given a shot which brought a volume of 100,000 feet of gas, but will be given another shot in hopes of getting a heavier volume.

T. K. Buzzard is reported moving on the Prout farm, in Section 7, Vernon Township, Isabella County.

### Field Pickups

Johnson & Kirkcomb will drill No. 2 on the Frank Otway farm, in the NE NE NE Section 27, Porter Township, Midland County, a west offset to a producing well, drilled several months ago.

The test being made by the Shell Petroleum Corp., 660 feet from the south and west lines of the William Fritz farm, in the center of the SW SW Section 13, Broomfield Township, Isabella County, is due to reach the gas sand within a few days. Results will determine in a large measure the extent of the Broomfield gas field, the Fritz well being more than 2 miles to the southeast of the good producing gas wells on the Keeler-Mitchell farm of 400 acres, in Section 10, same township and approximately 10 miles almost due west of Mount Pleasant. This is the first development work in Broomfield Township for many months, but should the Fritz test prove as productive as other wells drilled in the township, it will help materially in starting something in the way of gas lines. Broomfield Township is the major source of natural gas in the Central Michigan Field. So far in the development made, there have been 14 wells drilled, proving close to 3,000 acres of gas territory, with an open flow estimated at better than 50,000,000 feet, and if the Fritz farm test proves a producer, it will add quite a lot of good looking territory to the Broomfield gas field.

George Wright of Owosso, Cecil Lamee and John Smith of Gordonville, have leased a block of about 750 acres, and announce that their first drilling location has been made in the southwest corner of the William Ryal 80 acres, in the W half SW Section 3, Mount Haley Township, Midland County, and approximately a quarter of a mile southeast of the well drilled on the Sims farm some months ago that had an oil showing. In case this develops a commercial producer, it will mean the opening up of a new pool for Midland County.


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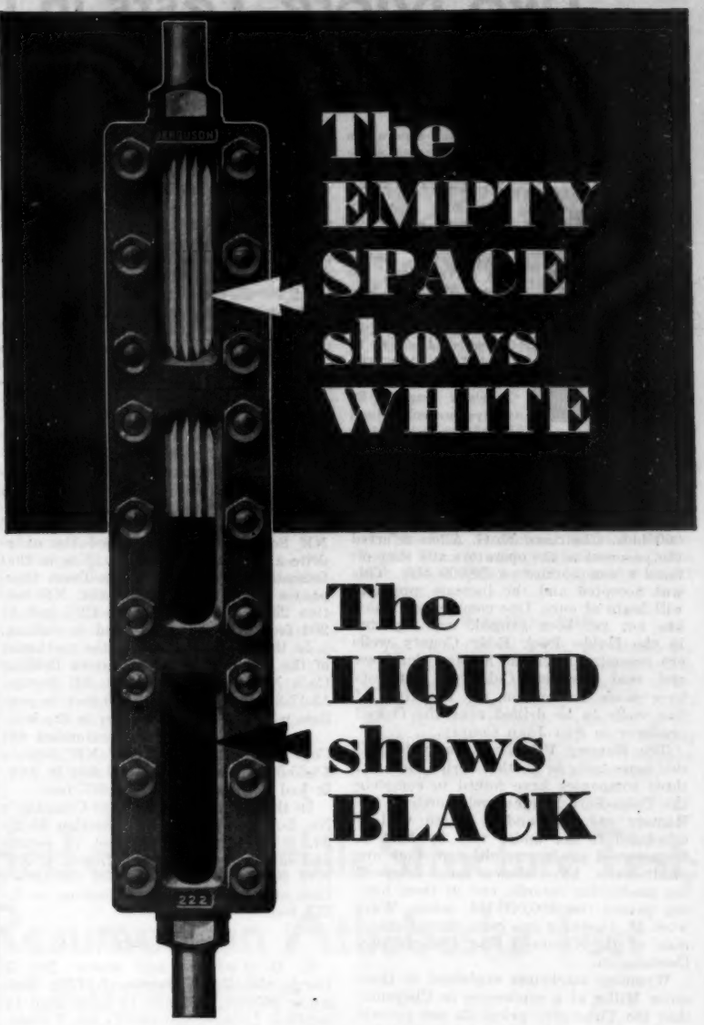


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# Reach Hobbs Agreement on 30,000 Bbls. Daily; Two More Tests in Northeastern Colorado

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Jan. 16.—Operators in the Hobbs Pool and New Mexico State officials reached an agreement for extending proration in that field on the basis of a minimum guaranteed outlet of 30,000 bbls. per day. The only other change in the agreement which expired January 10 provided that any party might withdraw upon 30 days notice instead of after the expiration of the first six months' period. Present outlet is 21,306 bbls. daily. Governor Seligman, Land Commissioner Frank Vesely and State Geologist E. H. Wells asked for a guaranteed minimum of 35,000 bbls. Chairman E. G. Allen referred the proposal to the operators and they offered a compromise on 30,000 bbls. This was accepted and the increase probably will begin at once. One completion, which has not yet been gauged, was reported in the Hobbs Pool. Eddy County wells are resuming after the holiday shutdown and cold weather. California interests have made a location for the first of five wells to be drilled near the Oswell producer in San Juan County.

The Ramsey Petroleum Co. will drill two more tests in northeastern Colorado; three companies have joined to complete the Tulsa-Fort Morgan well north of the Ramsey gas well and a fourth well is scheduled to get under way by May 1. Greasewood producers, although they are small wells, have shown some interesting production records, two of them having passed the 100,000-bbl. mark. Warwick M. Downing has been elected chairman of the Colorado Gas Conservation Commission.

Wyoming marketers explained to Governor Miller at a conference in Cheyenne that the Tulsa-plus prices do not prevail in that State and will prepare data for submission to the legislature. A tornado did considerable damage in the LaBarge Field. The Continental Oil Co.'s deep test in the Big Muddy had water in the second Sundance, but will continue to the objective in the third bench. Carbon County is to have another test on a structure heretofore undrilled.

In Montana, R. C. Tarrant's No. 1 Britton, in the Cut Bank Field, which was disappointing in the objective sand when shut down for the holidays, is showing up better and swabbed 60 bbls. in six hours. It is estimated that 100 wells will be drilled in that field this year. The Carbon Oil & Gas Co.'s No. 1 McMinn, which will extend the Dry Creek Pool, caught fire when it began flowing while swabbing and injured two workmen.

The Ohio Oil Co. is abandoning its Washington wildcat and will not do any more drilling in that district.

## NEW MEXICO

### Lea County

Pipe line runs from the Hobbs Pool in December aggregated 650,342 bbls., compared with 743,688 bbls. in November and 769,837 bbls. in October. Total runs since proration went into effect to January 1, 1933, were 28,571,660 bbls.

One completion in the Hobbs Pool was reported in the Stanolind Oil & Gas Co.'s No. 11 State, C NE SE Section 4-19-38, in the southeastern part of the field. It was drilled to 4,185 feet and the 2½-inch tubing was run to 4,166 feet and it is waiting for test. It topped the white lime at 4,014 feet and the pay at 4,030 feet.

The Continental Oil Co.'s No. 7-B State, C SW NE Section 33-18-38, is bottomed at 3,986 feet and waiting on cement. The 7-inch was cemented at 3,970 feet with 350 sacks. It topped the white lime at 3,985 feet, the brown lime at 2,790 feet and the salt at 1,705 feet. The base of the salt was 2,614 feet.

The Stanolind Oil & Gas Co.'s No. 26 Turner, C SE SW Section 34-18-38, is drilling at 3,675 feet in anhydrite, and its No. 26 Thorpe, C SE NW Section 10-19-38, is drilling at 3,280 feet in anhydrite. The Humble Oil & Refining Co.'s No. 3-B Bowers, SW SE SE Section 20-18-38, is drilling at 2,940 feet in anhydrite, and the Gypsy Oil Co.'s No. 2 Hardin, SW SE SE Section 18-18-38, is standing cemented at 4,030 feet. The Tidal Oil Co.'s No. 4 Hardin, SW NE NE Section 19-18-38, topped the anhydrite at 1,540 feet and is drilling in that formation at 1,605 feet. The Texas Company's No. 4-C State, NW cor. NE Section 25-18-37, cemented the 12½-inch at 204 feet with 200 sacks and is waiting.

In the Lovington area to the northwest of the Hobbs Pool, the Western Drilling Co.'s No. 1 State, NE cor. SE Section 13-17-36, is drilling at 5,100 feet in gray lime with 2,500 feet of water in the hole.

In the Jal area, the Continental Oil Co.'s No. 1-B Sholes, C SW NW Section 13-25-36, is drilling at 2,900 feet in lime. It had a show of gas at 2,875 feet.

In the Lea area, The Texas Company's No. 2-A Lynch, C SE SE Section 34-20-34, is drilling at 3,161 feet in potash and salt, and its No. 1-B Lynch, C SW NW Section 34-20-34, topped the brown lime at 3,360 feet and is drilling at 3,375 feet.

### Eddy County

C. H. Lockhart and others' No. 2 Burch, C SW SW Section 7-17-30, Maljamar district, is ready to build road to location. Leonard-Barnsdall's No. 1 Dodd, SW SE SW Section 22-17-29, Jackson district, spudded to 45 feet and shut down to repair engine, and Price & Sons' No. 1 State, C NE SW Section 15-16-23, northwest of Artesia, has materials on the ground but has been delayed by the weather. Isaac Hanan and others' No. 1 State, NW cor. Section 32-18-31, south of the Jackson Pool, is rigging up cable tools. The Pecos Valley Gas Co.'s No. 7 Vandagriff, SE NW SE Section 5-17-28, Artesia district, is drilling at 770 feet in gypsum after pulling 390 feet of 10-inch. Flynn, Welch & Yates' No. 65 State, NE SE SE Section 30-18-28, is drilling at 1,050 feet in gypsum. R. Spearow and others' No. 1 McClellan, SW NW NE Section 22-22-23, Indian Creek, is drilling at 1,012 feet. The hole is making enough water for drilling purposes.

### DeBaca County

The Landowners Oil Co.'s No. 1 State, SW cor. NE Section 16-1s-27, Buffalo Creek, is shut down at 5,316 feet making repairs.

### Chaves County

The Warman Oil Trust's No. 1 Weldon & Hoar, NW cor. SE Section 9-14-25, Blackdom district, is drilling at 340 feet in red shale.

### Guadalupe County

The New Mexico Producing & Refining Co.'s No. 1 McMullen, SW cor. Section 24-5n-16, Mesa Leon district, is bottomed at 4,770 feet in the Magdalena lime and preparing to resume under a new contract to go to 5,500 feet, or to 6,000 feet if necessary.

The New Mexico Exploration Co., Ltd.'s No. 1 Anton Chico grant, NE cor. SW Section 20-9n-17, is drilling at 1,100 feet in sand. It is carrying a small quantity of salt water.

### Santa Fe County

The Kelsey Clients Development Estate's No. 1, Section 26-10n-10e, Crow Butte, is drilling at 1,200 feet in very hard arkose, topped at 725 feet. Due to hardness of formation and inclination of hole to go crooked, small shots of dynamite are being used continually to break down the formation.

### Bernalillo County

Norins Realty Co.'s No. 1 Pajarito grant, NW cor. NE Section 22-9n-1e, is drilling at 3,390 feet (correct) in gray sand after cementing the 8¼-inch at 3,356 feet, and its No. 1 Gallegas grant, C NW NW Section 19-11n-4e, is rigging up.

### San Miguel County

The Starr-Kennedy Oil Co.'s No. 3 Adams, NE cor. Section 25-17-16, Graham district, is bottomed at 3,090 feet and cleaning out and fishing. It has 700 feet of 5⅞-inch pipe in the hole.

### San Juan County

The California Corp., in which Isaac Sharp is reported interested, is moving in for its No. 1, NW cor. Section 3-29-11w, North Bloomfield, half a mile southeast of R. C. Oswell's No. 3, which recently came in as a producer. This is the first of a series of five wells to be drilled. This company is reported to have taken over the Godie tract, 4 miles south of Aztec, upon which there are several small gas wells, a 4-mile pipe line to Aztec and the distributing system in that town. The plans provide for a gasoline plant to be constructed in the field. Fred Barrett's No. 1 Hart, Section 11-29-11, Fulcher Basin, is shut down at 310 feet.

### Valencia County

The Western Natural Resources Corp., Inc.'s No. 2 San Clemente grant, SW cor. NE Section 5-6n-1e, is rigging to resume at 3,610 feet.

## COLORADO

The wildcat play in northeastern Colorado the coming spring promises to be on a larger scale than at any time up to the present with at least five wells in sight. Contracts probably will be signed within the next few days for the completion of the Tulsa-Fort Morgan Petroleum Corp.'s No. 1 Athens, C NE NE Section 24-8n-59, in the New Raymer district, 5½ miles north and a little east of the Ramsey Petroleum Co.'s No. 1 St. Anthony, which is being completed as a gas well. No. 1 Anthes was drilled to 3,318 feet with cable tools by the Tulsa-Fort Morgan company and on account of this start, it probably will be the first well in the new campaign to test the objective. The Standard Oil Co. of California, the Continental Oil Co., and the Centennial Plains Oil Co. are reported to have reached an agreement with the Tulsa-Fort Morgan company to complete this test with rotary tools on the basis of a division of acreage. These companies already have considerable acreage in that district. The Mead Brothers Drilling Co. of Oklahoma, are ready to ship in five cars of rotary equipment and start drilling within two weeks. The 10-inch casing will be cemented at the present depth and it is planned to run the 7-inch on top of the Muddy and complete with cable tools. Present equipment will be retained for that purpose.

The Ramsey Petroleum Co. will drill two wells. Locations have not been officially announced, but one of them probably will be on the Frank Koutoc tract in the SE Section 4-7n-59, and the other about a mile to the southeast of No. 1 St. Anthony. George Vincent and associates have the NW Section 1-7n-59, under a lease providing for drilling to begin by May 1 and it is understood considerable progress is being made in the plans. The fifth test which is practically a certainty, is somewhat removed from these operations, but the parties back of it are not yet prepared to announce their plans.

The Ramsey Petroleum Co.'s No. 1 St. Anthony, SW NE SE Section 15-7n-59, which was drilled to 6,791 feet, 34 feet in the Dakota, pulled all of the 5⅞-inch except the bottom joint, which is in the top of the Dakota, and is rigging up to cement and plug back to the Muddy and complete as a gas well. The Muddy, topped at 6,686 feet, made 6,500,000 feet of gas per day before killing to go deeper. That formation consisted of 5½ feet of true sand and about 15 feet of sandy shale. The top of the Dakota showed considerable oil, but the water increased to around 400 bbls. per day when it was 34 feet in the sand. Some disappointment was expressed that this well did not go on through the Dakota and test the Lakota, but this was done away with when Mr. Ramsey announced that two more wells would be drilled. The gas from the Muddy tests 2½ gallons of gasoline to 1,000 feet of gas. It is planned to construct a gasoline plant at the well and recover this content. A deal has been made to sell the output to the Consumers Oil Co., of Greeley, a community marketing concern which, as the Greeley Oil Co., received a one-thirty-second interest in the well for use of equipment. Several offers to buy the dry gas and pipe it to towns in that vicinity are reported under consideration.

The Reiter-Foster Oil Co.'s No. 1 Ida Johnson, C NE NW Section 24-6n-61, in the Greasewood Pool, 13 miles to the southwest of the Ramsey well, which stopped flowing late in October, is again back on production. On December 31 it was agitated with a swab and resumed flowing. It made 81 bbls. the first 24 hours and in the next period it increased to 108 bbls. It is now averaging around 54 bbls. per day. The longevity of the three producers in the pool is worthy of note. The Continental Oil Co.'s No. 1 Briggs passed 100,000 bbls. late in December and is still making an average of 108 bbls. per day. A remarkable feature is that production did not vary over 10 bbls. per day either way during the month. The No. 1 Patterson, the discovery well, passed the 100,000-bbl. mark the first 13 months and is still doing better than 50 bbls. per day.

### Adams County

The Hills Dome Lease Development's No. 1 Hills, SE cor. Section 27-3s-64, Watkins district, is preparing to resume at 4,119 feet. At that depth it stopped to cement cave in October and then shut down.

### Larimer County

C. Leonard Smith and others' No. 1 Union Pacific, SW SE SW Section 31-12n-69, Sand Creek, has a bad fishing

job at 172 feet and it is probable that the crew will return to No. 1 State, SE cor. Section 36-12-70, which is bottomed at 760 feet, and try to complete it. Five holes have been started, but the formation is unusually hard drilling. The structure sticks out so that it can be seen in the wall of the canyon and all of the holes have had good shows of oil and gas, some at 70 feet. The Sundance is at the surface.

**Lincoln County**

The Eastern Colorado Oil Co.'s No. 1 State, SE cor. NW Section 36-14s-57, Hugo district, is shut down at 3,465 feet, 1 foot in the Dakota, with 2,500 feet of salt water in the hole, while President M. K. Mouser is in a hospital. It is planned to carry it down to the Lakota, if possible.

**New Commissioner**

Warwick M. Downing, of Denver, a member of the Oil States Advisory Committee, has been appointed a member of the Colorado Gas Conservation Commission to succeed Fred W. Freeman, deceased. H. C. Bretschneider and Sidney H. Keoughan are the other members. Mr. Downing was elected chairman at a meeting of the board the past week.

Oil men are interested in the seventh annual highway engineering conference to be held at the University of Colorado, Boulder, January 19-20. Representatives from six states are expected to be present to discuss construction and maintenance problems incident to bituminous mat highway surfacing, including methods of selecting and testing road oils suitable for this purpose.

## WYOMING

A freak tornado struck the LaBarge Field last Saturday, blew down a steel derrick for The Texas Company, and a frame derrick for the Senrab Oil Co., blew down an office building and warehouse of the Oreana Refining Co., and damaged several cottages.

The Hamilton Dome Field in Hot Springs County, has been temporarily shut in the past two weeks due to the freezing up of low places in the Illinois Pipe Line Co.'s line to Greybull.

**Park County**

The Continental Oil Co.'s No. 1 Northern Pacific, SE SW NE Section 23-58-98, Frannie Dome, a little more than a half mile to the north of the nearest producer, is attracting attention as it appears to be running about 125 feet higher than the well to the south, which was the best producer in the field, although it was looked upon as a flank well. The Continental well is bottomed at 3,312 feet and cemented the 8⅝-inch at 3,309 feet and is standardizing to drill into the Embar-Tensleep formation. It topped the Embar at 3,285 feet.

**Big Horn County**

W. O. Taylor and others' No. 1 Hoskins, Lot 5, Section 25-56-97, Byron Dome, which will look for green oil in a block south of the fault, has rig completed and is ready to spud. It is using the Indian Petroleum Co.'s rig moved in from Lance Creek. It is located on an island in the Shoshone River.

**Natrona County**

Peter Evanoff's No. 2, SW SE Section 3-39-79, west Salt Creek, is drilling at 2,600 feet.

**Fremont County**

The Texas Company's No. 2 State-Ridgway, SE SW SW Section 36-34-95, Alkali Butte, is bottomed at 4,571 feet and preparing to resume drilling. It cored from 4,441 feet to bottom. This was about the depth at which the Dakota was expected.

**Converse County**

The Continental Oil Co.'s No. 30 Glenrock, SW SE SE Section 4-33-76, Big Muddy, the first test of the Sundance in that field, is bottomed at 4,767 feet, has recovered lost tools and is preparing to plug off water. It topped the middle member of the Sundance at 4,770 feet and water rose 1,000 feet in the hole. The objective is the lower Sundance, the principal producing horizon in that formation at Salt Creek and water in the second bench is not conclusive as to results. This sand is 60 feet thick at an outcrop west of the field.

**Carbon County**

The Ohio Oil Co.'s No. 1 Kanawha, SW NW NE Section 34-23-79, Allen Lake, is drilling at 1,060 feet and is estimated to be about 500 feet off the first objective.

**Platte County**

T. R. Oberman's No. 1 Diamond ranch, NW SE Section 30-21-68, west of Chugwater, is resuming at 170 feet.

**Carbon County**

Unidentified parties are preparing to make a test of the Pass Creek structure, which has never been drilled, and have made a location in Section 19-20-83. The Frontier is at the surface. Rig is being moved in.

**Niobrara County**

The Interstate Oil & Refining Co.'s No. 1 Morrell, SW cor. SE Section 2-39-61, West Mule Creek, is drilling at 2,200 feet and is estimated to be about 100 feet off the objective sand in the base of the Minnelusa which was productive in the only well drilled to that horizon in East Mule Creek.

## MONTANA

**Carbon County**

The Ohio Oil Co.'s No. 11 Bowman, C SE NE Section 4-7s-21, Dry Creek, is drilling out cement to test the Dakota and Lakota after plugging off bottom water at a total depth of 5,928 feet. Its No. 9 Souders, C NE SW Section 2-7s-21, is drilling at 4,415 feet after going through the Frontier and is on its way to the Dakota. The Carbon Oil & Gas Co.'s No. 1 McMinn, NW SW SW Section 7-7s-22, in the eastern part of the field, is bottomed at 5,551 feet, and repairing rig and rigging up cable tools to complete. It was running tubing with packer attached to shut off water and test oil show in the Dakota when the well started to flow. The gas caught fire and rig was badly damaged. Robert Cockburn and Howard Bowersock, drillers, were severely burned. If this well makes a producer it will extend the pool half a mile to the south.

**Glacier County**

R. C. Tarrant's No. 1 Britton, NE cor. SE Section 14-34-6w, in the Cut Bank area, a west offset to his No. 1 Haglund, a producer, and located in about the center of the field as so far developed, looks as if it will make a well without being shot. It cut the objective sand at 2,839-96 feet before the holidays and shut down. The sand showed a little saturation at 2,866-96 feet, but not in promising quantities. Operations were resumed the past week and when the bailer was run it was found that oil was standing 1,700 feet in the hole. It began swabbing and made 60 bbls. in six hours. It may be given a shot. Another near completion was delayed when Tarrant's No. 1 Haglund, Sr., SW cor. NW Section 13-34-6w, a north offset to his No. 1 Haglund, jumped a pin and is fishing. It is bottomed at 2,846 feet with 150 feet of oil in the hole. Another near completion delayed by a fishing job is L. R. Hannah and others' No. 1 Britton, SE SW SE Section 14-45-6w, a north offset to the Santa Rita Oil & Gas Co.'s No. 1 Yunck, which is fishing at a total depth of 2,836 feet.

Joseph S. Irwin, geologist for the Tarrant interests, is spotting 14 locations in the field to be drilled the coming spring. These, however, are part of a more extensive development program as soon as the limits of the pool are determined. The Santa Rita Oil & Gas Co., also, is developing plans for an extensive program and altogether it is considered probable that at least 100 operations will be under way before summer.

R. C. Tarrant's No. 1 McLellan, C SE SW Section 7-34-5w, is standardizing at 1,465 feet, and his No. 1 Miller, C NE NE Section 24-34-6w, is shut down at 1,250 feet. B. E. Adams and others' No. 1 Britton, SE cor. NE Section 14-34-6w, after sidetracking tools at 2,730 feet, broke the spud and again is fishing. The Alberta-Pacific Consolidated Oil Co.'s No. 1 Matson, NE SE NW Section 14-34-6w, recovered all tools in the hole and is drilling ahead at 2,375 feet, and its No. 1 Kisel, NE cor. NW Section 11-34-6w, is drilling at 2,315 feet in the Colorado shale. The Dakota-Montana Oil Co.'s No. 1 Drumheller, SW SE NE Section 3-34-6w, is drilling at 1,940 feet. W. M. Fulton and others' No. 1 Blackfeet, NE cor. Section 16-34-6w, which was delayed in getting started by the cold weather, is moving in. The Hannah-Porter Co.'s No. 1 Britton, NW NE NE Section 23-34-6w, is shut down after spudding, and the Santa Rita Oil & Gas Co.'s No. 1 Jackson, C NW SW Section 25-34-6w, is rigged and ready to spud, but waiting for completion of water well.

## UTAH

The Utah Southern Oil Co.'s No. 1 Balsey, C NE NE Section 31-23-21, Salt Valley structure, Grand County, was abandoned at 6,120 feet in black muddy shale and salt when capacity of the rig was reached. It did not test the objective Ordovician. It had salt almost continuously from 900 feet down. At 3,500 feet it had a show for 30 bbls. per day in a break in the salt. The Arrowhead Petroleum Co.'s No. 1, SE SW NE Section 1-43-15, Punchbowl district, Washington County, was abandoned at 1,185 feet. It had shows of oil in several upper horizons.

## WASHINGTON

The Ohio Oil Co.'s No. 1-A Robinson, Section 5-17n-9w, Aberdeen-Hoquiam structure, Gray's Harbor County, is being abandoned at a total depth of 6,725 feet. It went through numerous sandy shale streaks showing gas, but nothing commercial was encountered. Company probably will abandon the territory.

# Drilling Suspended on Two Hills Structure Test; Operations Resumed on Athabaska Test

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Jan. 14. — Deliveries from the Turner Valley Field in December to Imperial Oil, Ltd., and the Regal Oil & Refining Co. aggregated 49,348 bbls., an increase of 7,706 bbls. over November. Southern Lowery Oils, Ltd., with deliveries of 6,597 bbls. ranked as the leading producing company in December. Mercury Oils, Ltd., was second with 6,190 bbls. and Royalite Oil Co. third with 6,051 bbls. The largest individual producing well was Merland Oil Co.'s No. 1, delivering 4,355 bbls.

The December figures bring the total for the year 1932 to 673,768 bbls. To this figure must be added direct sales at the wells. The 1932 total compares with 1,190,324 bbls. in 1931 and a peak production of 1,312,695 bbls. in 1930. The figures per year since the opening of the deep lime production late in 1924 are as follows: 1925, 195,000 bbls.; 1926, 200,000 bbls.; 1927, 332,132 bbls.; 1928, 481,645 bbls.; 1929, 956,869 bbls.; 1930, 1,312,695 bbls.; 1931, 1,199,324 bbls.; and 1932, 673,768 bbls. This gives total refinery deliveries since deep lime production started of 5,351,433 bbls.

Activities of the Turner Valley Gas Conservation Board were halted for a second time when Mercury Oils, Ltd., secured from Mr. Justice Lunney of Calgary an interim injunction, restraining the board from holding a public meeting of operators to discuss a proposed pooling scheme for the Turner Valley Field. The meeting was scheduled for January 9, the program including submission of full reports on the exhaustive flow and pressure tests completed in November, and of alternative schemes for unit operation of the field.

The injunction was asked on the grounds that the gas conservation board had failed in its duties, had not complied with the Turner Valley Gas Conservation Act, and had failed to effect gas conservation; the claim being that under the act the board should have completed its tests, called the public inquiry and imposed conservation within six months. An action commenced by the company against the board asks the court to declare that all reports and recommendations of the gas board henceforth are of no effect and the work of the board is at an end.

The securing of the injunction postpones the proposed public hearing till the question at issue is disposed of. The report which was to have been presented to the operators by the board shows increasing wastage and declining pressures. In 1924 the gas production was approximately 4,500,000,000 feet: in 1926, 9,000,000,000 feet; in 1928 it was 23,000,000,000 feet; in 1930 about 150,000,000,000 feet and in 1931 it reached a peak of 180,000,000,000 feet for the year. The average pressure had meanwhile dropped to 1,288 pounds, a drop of 1 pound being recorded for every 675,596,000 feet of gas produced.

Two voluntary pooling schemes were to have been submitted by the board, the one proposed some time ago by Calgary & Edmonton Corp., and the other worked out by the board itself. The plans contemplated the more equitable distribution of the revenue from naphtha sales. The board's allocation of the gas flow gave independent producing companies 47,573,000 feet a day; independent nonproducing companies, 17,434,000 feet; Imperial subsidiaries, 96,212,000 feet, and Imperial contract companies, 38,773,000 feet a day. This made a total flow for the entire field of 199,992,000 feet of which Imperial would have 134,985,000 feet. The Calgary & Edmonton Corp. scheme made no gas allocation to nonproducing companies, and allowed independent companies 74,450,000 feet; Imperial subsidiaries 67,484,000 feet and Imperial contract companies 58,064,000 feet; a total of 199,998,000 feet of which Imperial would have 125,548,000 feet.

An alternative scheme formulated by B. F. Hake of Nordon Corp. contemplates the allotment of pressure quotas instead of gas flow quotas to the various producing wells.

**South Turner Valley**

In the far south end of South Turner

NATURALINE
THE SUPER AVIATION MOTOR FUEL

MANUFACTURERS OF ALL GRADES OF NATURAL GASOLINE.

Lone Star ★ Gasoline Co.

1915 Wood St. Dallas, Texas

Valley, Mar-Jon-Freehold's No. 1, LSD 9, Section 28-18-2w5, has drilled out cement and is sidetracking tools about 50 feet in the lime at 5,469 feet. In LSD 15, same section, W. F. Becker and associates' No. 2 Anaconda, is drilling around 200 feet.

About a mile south of these tests, Union Drilling Co.'s No. 1, LSD 8, Section 21-18-2w5, is testing a potential southerly extension of the proven field, and drilling below 100 feet.

In the Mercury area, Associated Royalties' No. 1 Spray, LSD 9, Section 5-19-2w5, has resumed drilling after cementing at 3,310 feet to overcome caving. The test has a gas flow estimated around 3,000,000 feet from several shallow sands.

### Central Turner Valley

In Central Turner Valley, McLeod Oil Co.'s No. 4, LSD 16, Section 1-20-3w5, is standing at 7,755 feet, Bow Oils' No. 1, LSD 14, Section 12-20-3w5, is cleaning out at 3,889 feet with some increase in wet gas flow.

### North Turner Valley

In the North Turner Valley area, Model Oils' No. 2, LSD 16, Section 22-20-3w5, is drilling below 4,030 feet after finishing a difficult fishing job at 3,907 feet.

### Two Hills Test

Drilling has been suspended on a wildcat of the Two Hills structure east of Edmonton. The test, in LSD 2, Section 1-55-13w4, was started last fall by Frontier Development Co., subsidiary of Canadian Exploration Co. of Denver, the Texas Oil Co. of Canada later securing a half interest in the test and acreage. The test was started by Frontier Development Co. after a series of systematic structure tests; and the final stages of the drilling operations were under the direction of F. W. Rohwer of the Frontier company, and A. J. Childerhose of the Texas company.

Detailed information as to the results have not been given out, but it is understood that a number of oil sands were encountered and below 1,900 feet a sand carrying both gas and oil. Drilling continued to around 2,000 feet, when salt water was struck. Drilling contract was with the Sheldon Burden Co. of Canada, a rotary outfit being used.

The test was undertaken largely as a result of showings encountered a couple of years ago in a test by Alberta Pacific Consolidated Oils, Ltd., on Canadian Exploration Co. acreage on the nearby Duvernay structure. Alberta Pacific's Duvernay well was in LSD 5, Section 34-55-12w4, farther east; and finished 347 feet in the Palaeozoic lime at 2,417 feet. This test started in the Belly River formation, got the top of the lower Cretaceous at 1,500 feet and the top of the Palaeozoic lime at 2,070 feet, numerous oil shows and three shows of gas being encountered on the way to the lime. The salt water in Frontier's Two Hills well was apparently close to the top of the lime, the Duvernay well showing water at 2,069 feet. Frontier's No. 1 may test some of the oil sands in the upper formations.

### Northern Test Resumes

In the Athabaska district, northern Alberta, Athadome Oils' No. 2, LSD 3, Section 15-66-23w4, near Athabaska Landing, has resumed drilling around 700 feet. This is the most northerly location in Alberta. The rig was moved to its present location from Mirror Landing, where Athadome's No. 1 got a heavy gas flow but later drilled into water and had to be abandoned.

### Keho Lake Test

On the Keho Lake structure, northwest of Lethbridge, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, LSD 2, Section 17-11-22w4, has resumed work. Just before the Christmas shutdown a 50-quart shot was tried in a stray sand of the Benton shale at 3,768-80 feet, apparently increasing the oil flow. The hole has since been cleaned out and a liner set to keep back the cavings. The test has not gone far enough to determine the production. The crude is reported around 32.5 Be.

On the Twin River structure, southeast of Lethbridge, Nordon Corp. and C. A. Roney's No. 2 Twin River, LSD 11, Section 2-2-20w4, is preparing to resume drilling at 261 feet after hauling large supplies of fuel oil.

### Milk River Test

Definite completion of Commonwealth Petroleum's No. 1 deep test in LSD 8, Section 9-3-15w4, on the Milk River structure, is looked for early in the spring. It has been standing at 5,240 feet pending completion of Commonwealth Petroleum's No. 2 wildcat in southwestern Manitoba. The latter test recently finished dry, and the crew will be transferred to Milk River. Commonwealth's Milk River well was started several years ago and before shutting down in 1931 it had reached geological depths previously unattained in the border area. The log shows the top of the Colorado below 300 feet, the Blairmore at 2,160 feet, Sunburst sand at 2,570 feet, Ellis at 2,610 feet, Madison at 2,700 feet and Devonian lime at 3,840 feet. The Sunburst sand apparently had no showings, but there was a show of gas in the Ellis at 2,730 feet, with oil in the top of the Madison at 2,740 feet and further gas shows in both the Madison and the Devonian. The location is a considerable distance east of the three deep tests in the Lethbridge area which recently got varying shows of crude just below the Ellis-Madison contact, and the similar show in Commonwealth's No. 1 at this horizon is regarded as encouraging.

### Cut Bank Field

On the Montana side, Alberta Pacific Consolidated Oils' No. 1 Matson, S half NW, Section 14-34-6w, is making new hole below 2,300 feet after completing a fishing job at 2,217 feet and running 10-inch casing. Alberta Pacific's No. 1 Kiesel, Section 11-34-6w, is drilling below 2,260 feet. Six other tests are reported drilling and three shut down with one new location definitely made. Joseph S. Irwin, well known in the Calgary Field, is reported making new locations for the Roy C. Tarrant interests, which are planning to drill 14 new wells this spring. The Santa Rita Oil Co. is also planning considerable new drilling.

### Alberta Foothills Tests

In the northern foothills, west of Olds, Alberta, Hunter Valley Oil Co.'s No. 1, on forest reserve acreage in Township 31-10-5w, is hauling equipment to location. Test will spud in early in February. Farther east, Cartier-Majestic's No. 1, LSD 3, Section 36-31-7w5, is still fishing at 1,460 feet.

North and west of the Turner Valley Field, Moose Oils' No. 1, LSD 16, Section 29-22-6w5, being completed by the W. S. Herron interests, is preparing to fish for lost tools at 2,835 feet.

### Drilling in Ontario

In southwestern Ontario, Vacuum Gas & Oil Co.'s No. 4, Lot 53, North Talbot Road, in Orford Township, Kent County, finished drilling in the Medina at 2,035 feet without reaching the Red. Some sulphur gas, similar to the Tilbury product, was struck in sands between 1,580 and 1,688 feet, the gas flow being estimated between 20,000 and 25,000 feet a day. The well has been plugged back and is being shot in the sand.

In Raleigh Township, Producers Gas Corp.'s No. 1 Cecil Chinnick farm, Lot 17, Concession 8, is drilling below 1,100 feet. After running casing some water was struck and the hole reamed out and casing lowered to 1,030 feet. In the same area, F. H. Stover & Son's No. 1 Earl Flook farm, Lot 19, Concession 8, is still cleaning out.

In the Dawn Field, Lambton County, Union Gas Co.'s No. 65, Lot 24, Concession 2, Dawn Township, is drilling below 1,780 feet after getting a little gas and some traces of oil. The other oil producers got their production around 1,815 feet and lower.

# California Is Facing Show Down on Curtailment; Violent Windstorm Demolishes 296 Rigs

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Jan. 14.—The fate of California's curtailment program is expected to be definitely settled within the next 10 days as it is the present intention to afford operators a final opportunity to prevent a downward revision in prices and the elimination of curtailment efforts as a stabilizing factor. Several conferences have been held during the past week in a final effort to prevent total collapse.

Several fields have consistently exceeded allowable production during the past two months. These include Kettleman Hills, Huntington Beach, Long Beach, Santa Fe Springs, Playa Del Rey and others. Ventura Avenue has been exceeding its current allotment but this excess is only of a technical nature as operators in this field created an underage during the summer to meet the demand for natural gas during the winter.

### Rigs Blown Down

Southern California was visited by a violent windstorm early in the week, reaching a velocity in excess of 60 miles an hour. A survey shows 296 rigs demolished in the Long Beach, Huntington Beach, Torrance, Richfield and Fullerton Fields. Many of these pumping wells were still off production late this week and will probably be off the beam for another 10 days, although salvage work has been under way and rig builders assembling material for new rigs. In the meantime, crude production is about 3,000 bbls. per day off. The Union Oil Co. lost 46 rigs, 19 at Brea Canyon, 15 at Richfield and 12 at Huntington Beach. The Richfield Oil Co. is reported to have lost 40 rigs.

### Lost Hills-Belridge

The Ohio Oil Co. suspended drilling operations on No. 1 Bloemer in the North Belridge Field of Kern County for a few days to install heavy mud pumps. This precaution was deemed advisable as the deep Wagonwheel zone shows extremely high gas pressures. The bit is now rotating at 8,173 feet. The Belridge Oil Co., drilling two wells in the North Belridge Field, has started rig construction for No. 64-35, in Section 35-27-20. In the Lost Hills Field, the Associated Oil Co., which is drilling a joint deep test on the Williamson property with the Richfield Oil Co., will probably land a string of casing shortly, as the bit is nearing the 1,600-foot level.

### Mount Poso

The California Western Oil Co. and the Pacific Coast Division Oil Co. have started rig construction for two new wells in the Mount Poso Field of Kern County and rotary equipment is to be installed within 10 days. The Shell is also expected to drill a new well shortly as rig for No. 6 Security was erected two weeks ago. The Shell's latest completion was No. 6 Vedder, pumping 194 bbls. of 15.7 gravity oil per day from 1,675 feet. This hole was finished with an 8⅝-inch water string landed at 1,466 feet and a 6⅝-inch combination string carrying 205 feet of 4¾-inch perforated pipe. The Shell's present activity is more or less obligatory because of lease requirements. In the Round Mountain Field of Kern County, the California Western Oil Co. is rotating in No. 11 at 1,601 feet and should finish this project during the next 15 days. The Coffee Petroleum Corp.'s No. 3, a recent completion at 1,627 feet, has been more or less of a disappointment as it pumps off water producing 50 to 60 bbls. per day. In the Midway-Sunset Field the Standard has temporarily suspended drilling operations in No. 1 Mascot, a deep test bottomed at 9,762 feet and plugged back to 8,859 feet, but is expected to conduct an early production test before abandoning. This well, started several years ago and subsequently suspended for a period of 18 months, is in Section 26-32-23. The Darby Syndicate is rigging rotary equipment preparatory to spudding in No. 2 Cypress, in the Midway-Sunset district, in Section 22-32-23. In the Buena Vista Hills section of the Midway-Sunset Field, the North American Oil Consolidated is drilling in a projected deep test in Section 32-31-24 at 4,647 feet.

### Buttonwillow

The Milham Exploration Co. has spudded in a new potential gas producer in the Buttonwillow gas field of Kern County and is laying the foundation for another, No. 3 Whitaker, in Section 8-28-23. The Buttonwillow gas field is being conservatively developed by the Milham interests and tentative plans call for a continuance of the present scope of work. Buttonwillow is not expected to go on commercial gas production until next winter at the earliest and even then much depends upon the amount of natural gas available from oil fields of the State. Buttonwillow is capable of producing about 200,000,000 feet of natural gas per day at present, although on a short production test it would undoubtedly exceed 300,000,000 feet. The dry gas tests a little less than 1,000 B.t.u., which, while substantially below the heat value of oil gas, is somewhat above the heat value of artificial gas. As far as can be determined, no artificial gas is being manufactured in the State of California at present. The recent installation of transmission facilities from Huntington Beach to San Diego brings all of the larger centers of population within range of natural gas.

In the Gould Hills district, north of the McKittrick Field, T. H. Purman has landed and cemented a string of 9-inch in his No. 1 at 4,848 feet. This well is bottomed at 5,385 feet and core samples indicate that the Temblor was logged at approximately 4,845 feet. This wildcat is one of the very few promising tests under way in California. This test looks so promising that Purman has spudded in a second hole in the same general area. No. 1 is in Section 22-29-21, while No. 2 is in Section 27-29-21. The present wells are located at a strategic interval between the McKittrick and South Belridge Fields. There are only three incompleted drilling projects under way in the Fruitvale Field of Kern County, two being prepared for early production tests. These are the Fruitvale Oil Co.'s No. 1 at 4,083 feet and the Powell-Stockton Investment Co.'s No. 1 Baier, bottomed at 4,405 feet but subsequently plugged back to 4,260 feet. The Harrison Oil Co. is temporarily held up with a fishing job at 3,665 feet in No. 1, located in Section 23-29-27. In the Devils Den region, A. S. Hollaway and the Pyramid Hills Oil Co. are drilling in their respective tests, neither yet deep enough to pick up the pay.

### Kettleman Hills

One new well is expected in the Kettleman North Dome Field before the close of the month and will be followed by another before the end of February. The next well expected to be finished in the Kettleman North Dome Field is No. 32-32-J of the Kettleman North Dome Association, which is rotating at 8,398 feet. The Superior Oil Co. is building rig for No. 6 Huffman, the fifth new well to be started on this lease since extension of the field. The Superior erected a new rig for No. 5 Huffman a month or so ago but has apparently decided to start work on No. 6 first. The North Kettleman Oil & Gas Co. has resumed drilling operations in No. 1 Lillis-Welsh at 9,932 feet, following a suspension of about 15 days, and this well will be carried down as a deep conclusive test. The hole is in excellent shape due to the careful supervision of Ed McAdams, and, unless something unforeseen develops, will probably break the existing record for depth. Tentative plans call for deepening to 11,000 feet. No. 1 Lillis-Welsh is running substantially lower on the structure than anticipated and does not look as hot as earlier last year. It still has a chance of getting production. In the Middle Dome of Kettleman Hills, the Standard has succeeded in fishing out all of the drill pipe which was lost in No. 6-29-V at 8,406 feet several months ago. The company is endeavoring to remove the 7-inch casing landed and cemented through perforations at 7,533 feet. The pipe has been cut at 6,930 feet and the crew is trying to pull the 7-inch above this point. The Standard has shown exceptional perseverance in the drilling of this well and now seems to be in a position to capitalize on this asset.

### Dominguez

The Union Oil Co. recompleted No. 21 Callender in the Dominguez Field of Los Angeles Basin early in the week, after redrilling and deepening the hole from 4,211 feet to the third Callender zone at 4,875 feet. This rejuvenated well, finished with a 6⅝-inch liner carrying 284 feet of perforated, came in under a natural flow doing 1,430 bbls. of clean 32.2 gravity oil and 1,588,000 feet of gas per day through a fifty-two-sixty-fourths-inch bean under a pressure of 800 pounds. The Union is working on two other wells in this field, although drilling operations are not being pushed. The Republic Petroleum, which successfully completed No. 1 Childs flowing approximately 900 bbls. per day from 4,500 feet a few weeks ago, is cleaning out No. 1 Shell-Childs, abandoned by the Shell Oil Co. a few years ago at 4,288 feet. The Republic's field department has pulled the 4¾-inch casing and will proceed to determine the effectiveness of the water shut-off on the 6¼-inch landed and cemented at 3,888 feet. The Childs property is on the edge of the structure and requires extreme care to exclude edgewater intrusion.

### Rosecrans

The Rosecrans Field of Los Angeles Basin is expected to be prominent during the next two months due to deep zone exploration on the part of the Barnsdall Oil Co. It will lead to the starting or deepening of several wells in the town lot area, south of present work. The Barnsdall is believed to have partially proven up a new deep zone in the Rosecrans Field several weeks ago when No. 2 Trust was brought in on a compressor doing approximately 200 bbls. per day from 6,804 feet. The existence of a deeper productive horizon in the Rosecrans Field has been suspected for several years. One independent geologist has been acquiring leases during two years or more. Several wells in the southern part of the field have just missed getting production in this horizon because of mechanical trouble. The sand has been designated as the Gordon zone by several because it was first encountered in No. 1 Gordon of the Union Oil Co., an outpost in the extreme southern part of the field. No. 1 Gordon of the Union, like No. 2 Trust

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

| | December 31 | | December 24 | | | |
|---|---|---|---|---|---|---|
| Intercoastal-domestic— | Total this week | Daily average | Total last week | Daily average | Total 1932 | Total* 1931 |
| Crude oil | ..... | ..... | ..... | ..... | 213,322 | ..... |
| Diesel and gas oil | ..... | ..... | ..... | ..... | 1,635,228 | 1,467,759 |
| Gasoline | 72,775 | 10,396 | 116,924 | 16,703 | 7,632,839 | 13,766,491 |
| Kerosene | ..... | ..... | ..... | ..... | 280,481 | 194,641 |
| Lubricants | ..... | ..... | ..... | ..... | ..... | 36,799 |
| Foreign exports— | | | | | | |
| Crude oil | 88,197 | 12,600 | 51,473 | 7,353 | 8,353,461 | 7,281,963 |
| Fuel oil | 100,571 | 14,367 | 74,610 | 10,659 | 7,825,001 | 13,767,456 |
| Diesel and gas oil | 82,816 | 11,831 | 10,214 | 1,459 | 2,826,392 | 4,219,633 |
| Gasoline | 70,010 | 10,001 | 239,015 | 34,145 | 8,183,944 | 8,838,202 |
| Kerosene | ..... | ..... | 116,489 | 16,641 | 2,841,588 | 2,377,285 |
| Lubricants | ..... | ..... | ..... | ..... | ..... | 216,736 |
| Naphtha distillates | ..... | ..... | ..... | ..... | 126,075 | ..... |
| Coastwise-domestic— | | | | | | |
| Crude oil | 241,281 | 34,469 | 175,113 | 25,016 | 14,116,248 | 20,690,043 |
| Fuel oil | 111,138 | 15,877 | 201,984 | 28,855 | 11,711,323 | 14,202,246 |
| Diesel and gas oil | 7,660 | 1,094 | 20,271 | 2,896 | 1,381,966 | 1,581,111 |
| Gasoline | 340,565 | 48,652 | 180,052 | 25,722 | 15,047,790 | 14,332,194 |
| Kerosene | 516 | 74 | ..... | ..... | 161,402 | 322,009 |
| Naphtha distillates | ..... | ..... | ..... | ..... | ..... | 4,952 |

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Intercoastal-domestic— | | | | | | |
| Crude oil | ..... | ..... | ..... | ..... | ..... | 869 |
| Fuel oil | ..... | ..... | ..... | ..... | ..... | 16,153 |
| Diesel and gas oil | 78,941 | 11,277 | ..... | ..... | 739,921 | 1,346 |
| Gasoline | ..... | .... | 121,665 | 17,381 | 1,373,367 | 1,583,907 |
| Kerosene | ..... | ..... | ..... | ..... | 257,686 | 62 |
| Lubricants | ..... | ..... | 7,965 | 1,138 | 39,769 | 49,658 |
| Foreign exports— | | | | | | |
| Crude oil | ..... | ..... | 76,575 | 10,939 | 966,497 | 242,013 |
| Fuel oil | 58,725 | 8,389 | ..... | ..... | 1,022,827 | 1,932,506 |
| Diesel and gas oil | ..... | ..... | 157,789 | 22,541 | 930,746 | 1,707,621 |
| Gasoline | 71,268 | 10,181 | 29,597 | 4,228 | 4,032,135 | 4,517,929 |
| Kerosene | 16,642 | 2,378 | ..... | ..... | 1,024,672 | 947,387 |
| Lubricants | ..... | ..... | 6,885 | 984 | 36,979 | 429,569 |
| Coastwise-domestic— | | | | | | |
| Fuel oil | ..... | ..... | ..... | ..... | 2,970,519 | 3,750,590 |
| Diesel and gas oil | ..... | ..... | 13,716 | 1,959 | 452,462 | 438,552 |
| Gasoline | 166,989 | 23,713 | 29,741 | 4,249 | 3,870,529 | 4,244,319 |
| Kerosene | ..... | ..... | 4,236 | 605 | 144,204 | 287,045 |
| Naphtha distillates | ..... | ..... | ..... | ..... | ..... | 49,780 |

*Corrected to include package shipments.

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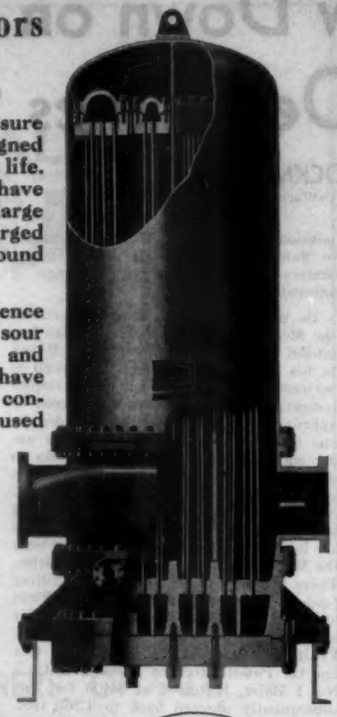

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of the Barnsdall, proved somewhat of a disappointment, although the latter did register some production. Other wells believed to have revealed the existence of a new zone in the southern part of the Rosecrans Field, include No. 5 Maxwell of the Superior, No. 2 Miley-Marland of the Miley Oil Co., No. 3 Maxwell of the Superior, No. 1 Rosecrans of the McKeon Oil Co. and No. 4 Trust of the Union. So far, with the possible exception of No. 2 Trust of the Barnsdall, no well is definitely known to have produced from the Trust or Gordon zone. The Texas Company has just finished repairing and reconditioning the rig over No. 1 Steiner in the Richfield district and will begin installing rotary drilling equipment. This well, an offset to No. 2 Davenport of the Forward Oil Co., will be redrilled and deepened as an offset. None of the other companies interested in the Richfield district have shown any inclination to develop the potential deep zone but may be obliged to do so if No. 1 Steiner comes in under a natural flow.

### Long Beach

Two wells were put on production in the Long Beach Field during the week, neither under a natural flow. These were No. 1 fee of the Dellford Oil Co. and No. 12 Signal of the Hancock Oil Co. The former, bottomed at 4,922 feet and finished with a 4¾-inch liner, was good for 106 bbls. per day, while the latter, bottomed at 7,946 feet and redrilled to 5,006 feet, was brought in on the beam pumping 152 bbls. of relatively clean 27.4 gravity oil per day. Not much new work is under way at Signal Hill, although there are some 15 or 20 reconditioning jobs. Several of these represent renewed effort to develop commercial production in old wells abandoned years ago. Some of this work will probably prove successful. In the West Coyote Field of Los Angeles Basin, the Standard has material on ground for No. 53 Emery but will probably not spud until after the completion of No. 52 Emery and No. 112 Murphy, both making hole. In the Potrero Field, the Wilshire Annex Oil Co. ran a formation tester in No. 3 Potrero and found some salt water and a little gas at 4,410 feet. This well is down 4,467 feet and while commercial production is somewhat dubious, careful engineering work may be productive of a satisfactory completion. The Wilshire is reconditioning several wells in the Huntington Beach Field, one of which, No. 5 Huntington,

### IMPORTANT NORTHERN CALIFORNIA WILDCATS

| Company, well and location— | S-T-R | Depth | Status— |
|---|---|---|---|
| Standard, No. 1 Santa Rosa Island, Santa Barbara Co. | unsurveyed | 6,060 | gr. sh. drilling |
| Meganos Oil Co., No. 1 Lompoc, Santa Barbara Co. | 28- 8-34 | .... | material |
| Smith, E. W., No. 1 Purisima, Santa Barbara Co. | 18- 7-34 | 1,471 | suspended |
| Duell, O. S., No. 1 Naples, Santa Barbara Co. | 7- 4-29 | 5,132 | suspended |
| Equity Oil Co., No. 1 Coal Oil Point, Santa Barbara Co. | 24- 4-29 | 3,750 | suspended |
| Bolsa Chica, No. 1 Coal Oil Point, Santa Barbara Co. | 25- 4-29 | 4,089 | suspended |
| Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co. | 13-10-27 | 2,162 | suspended |
| Woodrow Pet., No. 1 Rincon, Ventura Co. | 4- 3-24 | 6,230 | br. sh. drilling |
| Indian Pet., No. 1 Rincon, Ventura Co. | tideland | 2,115 | prod. test |
| Commander Oil Co., No. 1 Fillmore, Ventura Co. | 13- 4-19 | 2,100 | will deepen |
| Sovereign Oil Co., No. 1 Fillmore, Ventura Co. | 33- 4-19 | 3,177 | br. sh. drilling |
| Hancock Oil Co., No. 1 Fillmore, Ventura Co. | 13- 4-19 | 940 | deepen'ng |
| Honolulu Consolidated, No. 1 Miguelito, Ventura Co. | 23- 3-24 | 3,850 | sd. sh. drilling |
| C. C. M. O., No. 3-A Miguelito, Ventura Co. | 23- 3-24 | .... | material |
| Macrate, A. N., No. 1 Ojai, Ventura Co. | 27- 4-22 | 401 | sd. sh. drilling |
| Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co. | 20- 4-21 | 1,502 | br. sh. drilling |
| Mosher, J. W., No. 1 Santa Paula, Ventura Co. | 22- 4-21 | 816 | br. sh. drilling |
| Superior Oil Co., No. 1 Timber Canyon, Ventura Co. | 13- 4-21 | 4,175 | prod. test |
| Hardison & Temple, No. 1 Timber Canyon, Ventura Co. | 22- 4-21 | 248 | sd. drilling |
| Petro Producing Co., No. 1 Timber Canyon, Ventura Co. | 18- 4-20 | 3,482 | suspended |
| International Oil Developers, No. 1 Conejo, Ventura Co. | 33- 2-20 | 2,450 | hd. sd. drilling |
| Anderson, C. L., No. 1 Santa Susana, Ventura Co. | 36- 3-18 | rig | portable rotary |
| Las Posas Pet. Co., No. 1 Las Posas, Ventura Co. | 22- 3-20 | rig | suspended |
| Milham Exploration, No. 22 Buttonwillow, Kern Co. | 31-27-23 | 1,018 | sd. drilling |
| Milham Exploration, No. 23 Buttonwillow, Kern Co. | 8-28-23 | .... | material |
| Furman, T. H., No. 1 Gould Hills, Kern Co. | 22-29-21 | 5,384 | material |
| Furman, T. H., No. 2 Gould Hills, Kern Co. | 27-29-21 | 90 | sd. drilling |
| General Pet., No. 1 Belridge, Kern Co. | 30-28-21 | 3,260 | suspended |
| Cumberland Oil Co., No. 2 Devils Den, Kern Co. | 17-26-18 | 3,270 | suspended |
| Holloway, A. S., No. 1 Devils Den, Kern Co. | 11-25-18 | 1,510 | br. sh. drilling |
| Hanna, Tom, No. 1 Devils Den, Kern Co. | 25-25-18 | 3,516 | suspended |
| Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co. | 24-25-18 | 2,397 | sd. sh. drilling |
| Fowler, F., No. 1 Blackwell Corner, Kern Co. | 15-26-19 | 3,170 | suspended |
| Associated, No. 1 Lost Hills, Kern Co. | 2-26-20 | 1,541 | hd. sd. drilling |
| Seminole Oil Co., No. 1 Lost Hills, Kern Co. | 29-25-21 | .... | material |
| Kingsburg Expl. Co., No. 1 Kingsburg, Fresno Co. | 30-16-23 | 2,970 | suspended |
| Bergman, Harry, No. 1 Kingsburg, Fresno Co. | 12-12-11 | 391 | sd. drilling |
| Graham & Loftus, No. 1 Raisin City, Fresno Co. | 30-15-18 | 2,318 | sd. sh. drilling |
| Emerich Oil Co., No. 1 Mendota, Fresno Co. | 35-13-13 | .... | material |
| Kent & McDonald, No. 1 Carrizo Plains, San Luis Obispo. | 3-32-22 | 3,815 | suspended |
| Emerich Oil Co., No. 1 Carrizo Plains, San Luis Obispo Co. | 33-32-22 | 1,841 | suspended |
| Indian Dome Oil Co., No. 1 Edna, San Luis Obispo Co. | 26-31-12 | 3,352 | suspended |
| Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co. | 27-27-11 | 4,191 | suspended |
| Shell, No. 1 San Miguel, San Luis Obispo Co. | 4-25-12 | 4,092 | br. sh. drilling |
| Pacific Inland, Well No. 1, Monterey Co. | 19-23-15 | 2,441 | suspended |
| Thomas Pet., No. 1 Parkfield, Monterey Co. | 31-23-14 | 1,011 | sd. sh. drilling |
| Guess, E. B., No. 1 Corcoran, Kings Co. | 7-21-21 | 6,197 | suspended |
| Dudley Dome Oil Co., No. 1 Dudley Ridge, Kings Co. | 9-23-20 | 3,012 | suspended |
| Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co. | 26-23-17 | 6,000 | sd. sh. drilling |
| Kettleman Ridge Oil Co., No. 1 Avenal, Kings Co. | 10-23-16 | rig | cable tools |
| Magee & Stone, No. 1 Alpaugh, Kings Co. | 34-24-22 | 5,060 | suspended |
| Ducor Pet. Co., No. 1 Ducor, Tulare Co. | 14-24-27 | 2,200 | suspended |
| Inland Valley Oil Co., No. 1 Visalia, Tulare Co. | 24-17-24 | 2,092 | suspended |
| Ellis & Sanford, No. 1 Tulare Lake, Tulare Co. | 20-24-23 | 1,490 | suspended |
| Napa Oil Co., No. 1 Griffith, Napa Co. | 7- 8- 3 | 3,270 | sd. sh. drilling |
| Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co. | 5- 2-10 | 4,813 | suspended |
| Rushing Oil Co., No. 1 Waterford, Stanislaus Co. | 20- 3-13 | 2,652 | sd. sh. drilling |
| Pacific Northern Oil Co., No. 1 Guinda, Yolo Co. | 23-12- 3 | 3,045 | suspended |
| Buttes Oilfields Co., No. 1 Marysville, Sutter Co. | 35-16- 1 | 602 | hd. sd. drilling |
| Tehama Pet. Co., Well No. 1, Tehama Co. | 4-22-15 | 981 | hd. sd. drilling |
| Orland Synd., No. 1 Orland, Tehama Co. | 31-23- 3 | 3,400 | suspended |

### IMPORTANT SOUTHERN CALIFORNIA WILDCATS

| Company, well and location— | S-T-R | Depth | Status— |
|---|---|---|---|
| Hines Pet., No. 1 Ocean Park, Los Angeles Co. | 8- 2-15 | 7,414 | suspended |
| Taylor Oil Co., No. 1 Culver, Los Angeles Co. | 12- 2-15 | 6,238 | suspended |
| Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co. | 2- 2-15 | 3,401 | suspended |
| Williams Oil Co., No. 1 Moneta, Los Angeles Co. | 23- 3-14 | rig | suspended |
| Baldwin Oil Co., No. 9 Inglewood, Los Angeles Co. | 7- 2-14 | 5,863 | testing |
| Baldwin Hills Synd., No. 1 Inglewood, Los Angeles Co. | 17- 2-14 | 4,090 | recemented |
| Pacific Oil Inv. Co., No. 1 Wilmington, Los Angeles Co. | 28- 4-13 | 2,681 | sd. sh. drilling |
| Wilmington Oil Co., No. 1 Wilmington, Los Angeles Co. | 28- 4-13 | 799 | cemented |
| Jones, W. L., No. 1 Lynwood, Los Angeles Co. | 31- 2-12 | 4,480 | suspended |
| Hutcheson & Andrus, No. 1 El Monte, Los Angeles Co. | 11- 1-11 | 1,397 | suspended |
| Sanbar Pet., No. 1 Saugus, Los Angeles Co. | 35- 5-16 | 950 | cleaning out |
| Smith, J. A., No. 1 Saugus, Los Angeles Co. | 32- 5-17 | 3,515 | suspended |
| Alexander, W. L., No. 1 Newhall, Los Angeles Co. | 1- 3-16 | 501 | suspended |
| Garliepp, F. J., No. 1 Newhall, Los Angeles Co. | 14- 3-16 | rig | rigging up |
| Ball, W. T., No. 1 Newhall, Los Angeles Co. | 24- 3-16 | 3,553 | suspended |
| Big Four Oil Co., No. 1 Newhall, Los Angeles Co. | 33- 4-16 | 605 | sd. sh. drilling |
| Marble, Willard, No. 1 Van Nuys, Los Angeles Co. | 6- 2-16 | 1,598 | suspended |
| Nuoil Co., No. 1 Newport, Orange Co. | 29- 6-10 | 2,165 | cleaning out |
| Mineral Exploration, No. 1 Capistrano, Orange Co. | 8- 8- 7 | 4,283 | suspended |
| Orangethorpe Pet., No. 1 Brea, Orange Co. | 32- 3-10 | 4,560 | suspended |
| Spindeltop Oil Co., No. 1 Salton Sea, Riverside Co. | 25- 7-10 | 3,590 | suspended |
| Keeley, H. J., No. 1 Corona, Riverside Co. | 21- 4- 6 | rig | suspended |
| Duncan, N. L., No. 1 Sagebrush, Riverside Co. | 8- 4- 6 | 1,157 | suspended |
| Colan Dev. Co., No. 1 Redlands, San Bernardino Co. | 25- 1- 2 | 3,892 | suspended |
| Great American Pet., No. 1 Chino, San Bernardino Co. | 18- 2- 8 | 1,360 | gr. sd. drilling |
| Mason Oil Co., No. 1 Salton Sea, Imperial Co. | 1-17-15 | 680 | suspended |
| Woods, D. H., No. 1 Salton Sea, Imperial Co. | 7-11-16 | 774 | suspended |

at 4,430 feet, should be given a production test within a few days.

**Ventura County**

The Chanslor-Canfield Midway Oil Co. has not yet completed grading the site for No. 3-A Hobson, which the company will drill in the San Miguelito Field, but should finish in a week or so. The Honolulu Consolidated is making normal footage in No. 1 Valenzuela, approximately 4,000 feet southwest of Continental Oil Co.'s deep zone discovery, No. 1 Grubb. The Continental, unless it secures an extension of time, will be obliged to start a second well on the Grubb lease before February 15. In the Ventura Avenue Field, the Associated is drilling in four wells, one of which may be a potential completion within a few weeks. No. 74 Taylor of the Shell is also drilling in oil sand but it may be another 30 days before it is finished. No. 15-A Barnard of the General Petroleum, scheduled for completion in the deep 57 zone, is rotating in a hard sandy shale at 4,850 feet and will probably not be in a position to make a bid for production in the lower horizon for another 90 days. In the Elwood Field of Santa Barbara County, the Barnsdall and Rio Grande got a wet job in No. 9, on tideland permit No. 88, and will be obliged to undertake corrective work. This new well, bottomed at 3,505 feet, was plugged back to 3,305 feet, from which point another production test will be made. At Santa Maria the Union Oil Co. has recompleted No. 2 Coast, pumping 168 bbls. of relatively clean 24.2 gravity oil per day from 3,923 feet. No. 4 Folsom, another well being reconditioned by the Union in the Santa Maria Field, is rotating in the oil sand at 2,991 feet. The Union has not undertaken any new drilling in the Santa Maria Field, although it has been active for two years. Instead of drilling new wells in other areas and drilling wildcats, the Union has been conservatively reconditioning its properties in the Santa Maria Field. Work undertaken includes both the replacement of defective casing and the repressuring of the partially depleted productive horizons. The Union has built up a nice production in the Santa Maria district by repressuring the formation and reconditioning wells, many of which were completed before the present process of cementing wells under pressure was evolved. Over on Santa Rosa Island, off the coast of Santa Barbara, the Standard is rotating in a hard gray sandy shale at 6,090 feet with practically no showings of consequence. The Standard is tentatively conisdering the advisability of further wildcat exploration before pulling out.

## Gulf Coast Fields

(Continued from Page 53)

block, made a gasser at 4,708 feet last September but later went bad and was deepened to a total depth of 5,619 feet and then came back up to the present sand. The showings have been indicative of a new field in that area, the first in the county, but so far no other wells have been drilled.

**Fire at Fannett**

A second blowout and well fire for the Gulf Coast was experienced at Fannett, Jefferson County, in Gulf Production Co.'s No. 6 Burrell. The well several weeks ago had tested salt water at 4,955 feet and was pulling screen when the blowout occurred. The well caught fire and burned out of control for a day but sanded up and killed itself. It showed considerable gas and salt water and a little oil.

**Completions**

Among the best wells completed during the week was Rio Bravo Oil Co.'s No. 15-A Settegast, west flank of Pierce Junction. It set 19 feet of screen in a sand at a total depth of 4,475 feet and came in flowing 80 bbls. per hour through a three-eighths-inch choke with a pressure of 100 pounds. Both pressure and volume, however, increased and at latest report it was flowing at the rate of 2,280 bbls. per day with pressure of 305 pounds. The well formerly was completed in 1929 from a sand at 4,331 feet.

**Rabbs Ridge**

At Rabbs Ridge, Fort Bend County, Humble Oil & Refining Co. and Gulf Production Co. got two good producers in their joint No. 12-A Lockwood & Sharp and No. 9-B Lockwood & Sharp, each of which was estimated at 50 bbls. per hour from sand at 5,300 feet.

**Barbers Hill**

Texas Gulf Producing Co.'s No. 3 Tarbutton, east side of Barbers Hill, flowed 52 bbls. per hour from sand at 4,060 feet. Sinclair Prairie Oil Co.'s No. 13 Wilburn, also on the east side of Barbers Hill, looks like a good well at 4,307 feet, where 80 feet of screen was set, but at latest report had not entirely cleaned itself.

**Lockport Field**

Magnolia Petroleum Co.'s No. 6-A Farquahar, in the deep west extension district of the Lockport Field, also was coming in over the week-end from sand at a total depth of 6,461 feet. At Lockport, two new operations were started, these being Magnolia's No. 9 Farquahar, an offset to Union Sulphur Co.'s No. 4 Martha Moss, completed a couple of weeks ago, and Union Sulphur Co.'s No. 5 Martha Moss.

**Cameron Parish**

Magnolia Petroleum Co.'s No. 3 Cameron Meadows, third well drilled in the Cameron Meadows Field, southern Cameron Parish, has picked up a sand showing oil at 4,791 feet and has cemented 9⅝-inch casing at 4,770 feet to test. This is a different sand from that in either of the other two wells, No. 1 being completed at 3,850 feet and No. 2 at 5,270 feet. No. 3 is 500 feet south of No. 2.

**Markham**

Powers Production Co. is due to make a northward extension on the extreme northeast side of the Markham Field in its No. 1 Meyers, which has set 6⅝-inch casing at 3,310 feet to test a sand at 3,317-36 feet.

**Brazoria County**

Danciger Oil & Refining Co. and Hamill Drilling Co. have made location for their second test in the Pledger district of northwestern Brazoria County. This test, No. 2 Hunt, is approximately 1,200 feet to the south and east of No. 1 Hunt, the discovery well, completed last November as a wet gas well from sand at a total depth of 6,762 feet. The check location of No. 2 is 6,550 feet from the east line and 5,550 feet from the south line of the W. Carson Survey. The discovery well has been producing between 30 and 40 bbls. of distillate daily, which is being run to field storage. Pressure of the well is 2,675 pounds.

**Wharton County**

Herman Heep, Houston oil operator, has completed a trade with Dayvault-Tyler-Gardner, who have been drilling a wildcat, No. 1 Dayvault, in the William Kincheloe Survey, central Wharton County, and is moving in a heavier rig to deepen the hole from the present depth of 3,335 feet. This test is one of four wildcats, including Smith and associates' No. 1 Mitchell, drilling in the county, a county which is being watched closely for important developments in the wildcat play now under way on the coast.

**Buckeye Field**

United North & South Development Co. is moving a rig back on its No. 1 Stoddard, discovery well at Buckeye, Matagorda County, to work over. This well, completed last September as a 2,000-bbl. producer, has been producing steadily but recently started making considerable water. Up to January 1, the well had produced approximately 108,000 bbls. of oil. The well is the deepest on the coast, being in a sand at 7,808-24 feet. This company's No. 1 St.L.&B.M., second test for the field, now is drilling below 5,550 feet.

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# Wildcat in Duval County 7 Miles East of North Government Wells Pool Has Gas Showing

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Jan. 16.—A wildcat well in Duval County, 7 miles due east of the North Government Wells Pool, and on a folding parallel to that of the Government Wells group of pools, had a good showing of gas on an imperfect drill stem test late in the week in the Cole sand at 1,915-30 feet. It was Stanley Smith's No. 1 Pena in Survey No. 79.

It showed 135 pounds pressure in 1½ minutes and the drill stem then filled with drilling fluid. The discovery well in the North Government Wells Field was Seacord & Putnam's No. 1 Johnson in the Cole sand at 1,567-74 feet and later the Mirando sand was developed and is the only sand in the field that has been developed thus far at around 2,400 feet.

The industry is watching closely anything in the Northern Duval County section. Milam Drilling Co. recently got a 100-bbl. well over the line in Webb County on a parallel folding 12 miles west of the North Government Wells Field. The second test is being drilled there at this time.

### North Government Wells

There were some good wells completed in the North Government Wells Pool the past week, the only one of the group of four pools that is really active. The most important completion was the Highland Oil Co.'s No. 5 Lundvall at the extreme northeast end of the field, a well coming in for 65 bbls. an hour through three-quarters inch choke and pinched down to the allowable of the field. It is one of the best of the field.

Another was the Magnolia Petroleum Co.'s No. 4-A Hahl at the extreme southwest end coming in for 10 bbls. hourly. It does not, however, indicate an approaching limit of the field to the southwest but is rather an indication of the southeastern limit of the field.

The interesting development being watched closely is the area to the west and northwest of the field. All of the north end development has been up through the middle of Survey No. 42. The past week Edwin M. Jones started a test 150 feet from the south and east lines of the northeast of the southeast of Survey No. 41 which is next west of No. 42 and Buckner of Houston and Tom Graham of Alice started one test 330 feet from south and east lines of the southeast of the northeast of Survey No. 41 and still another test on a 35-acre strip of the east side of Survey No. 55 which is next west of No. 41, 1½ miles west of production.

This activity is partly due to the Scott well in Survey No. 56 next south of No. 55. It is standing at 2,264 feet but had some showings that convince some that the North Government Wells production may extend over to the west that far. Another factor entering into this "play" to the west is the tests that have been drilled 3 miles north of the North Government Wells Pool including the Sun Oil Co.'s small pumper on Survey No. 78 and two wildcat tests started by William B. Stewart in Survey No. 362. Everybody is satisfied there must be a fault line over to the west as proven by logs of wells. A Magnolia well drilled several years ago and located 2½ miles west had quite a little gas and oil.

### Laurel Pool—Webb County

Crowding into attention is the Laurel Pool in Webb County 2 miles northwest of Mirando City. Some advance was made the past week in defining the south end and Smith & Story of Oklahoma and Wolcott & Rehmet of Alice, Tex., are starting No. 1 Sarah Lloyd about 3,500 feet northeast of the discovery well of the field. This will be a very important test. It is 600 feet from the west line and 330 feet from the south line of the southwest of the southeast of Survey No. 23.

Hamill & Hamill drilled a test 150 feet from the south and east lines of the southeast of the southwest of Survey No. 23 and found only a little sand but found it high and did not complete a well, due, it is understood, to the sand being thin. Of the group of wells around the discovery well those to the east are the biggest, two of them coming in for more than 1,000 bbls. daily. Also 3,500 feet south and slightly west the Dyck Oil Co. recently got a big well in Survey No. 1,100, estimated at around 2,000 bbls. daily, but Reward Oil Co.'s No. 1 Laurel, 500 feet northwest of it, is now reported completed but estimated at around only 100 bbls.

Tests are being drilled east, southeast and south from the Dyck well at distances of half a mile to a mile. O. W. Killam, a half mile southeast, seems to be a little too far east and at last reports had passed sand depths and at 2,290 feet did not yet have any sand.

### Amerada's Wildcat

Amerada Petroleum Corp.'s No. 1 Halff & Oppenheimer in central Frio County, 50 miles southwest of San Antonio, that has attracted a great deal of interest due in the first place to being on an 80,000-acre block and in the second place to exhaustive geological and geophysical work done on it, and still more to it being out of the beaten path and located in territory that has never been drilled, came more into prominence last week when a drill stem test was made. It has been showing oil all through the Eagleford and Buda and some too in the chalk.

Austin chalk was topped at 5,435 feet and Eagleford at 5,900 and Buda at 5,990 feet. Not much was expected of the Buda and the drill stem test showed only a little gas and oil but the showing may be prophetic of what can be expected in the Edwards lime. Eagleford and Buda are not productive of commercial wells in Southwest Texas but a showing encourages the expectation of commercial production in the Edwards.

Total depth of the Amerada's test is now 6,084 feet. Several attempts were made to get a drill stem test before one was successful. The successful test showed gas for about nine minutes and then quit. On coming out of the hole there was a small showing of oil in mud and salt water. It is estimated that the Edwards will be found at about 6,365 feet.

### Tuleta Field

Activity centers in one well in the Tuleta Field. Conservative Oil Co.'s No. 1 Coutts, a little north and east of Dirks Brothers' No. 1 fee, which produced in the Yegua, showed for a good gas well in the Pettus sand at 4,091-4,126 feet. It is about one location east and one north of the Dirks Brothers' well which is a half mile west of the group of producers which constitute the field and produce from the Pettus sand. The Conservative's No. 1 Coutts is continuing to drill ahead and will go to the Yegua, about 200 feet deeper than the Pettus.

### Miscellaneous

Gibson Oil Co., which recently brought in a big well in sand at 4,861 feet in the Saxet Field, one of only a few wells at that depth, is starting another test.

Jeffries-Lambeth Drilling Co.'s No. 1 Starr County Cattle Co., a wildcat in Starr County which made a good showing on drill stem test just before Christmas, in sand at 1,515-22 feet, was getting ready to drill in late in the week. Casing had been set the first of the week.

Tidal Oil Co. owns one-eighth royalty under four sections of land in and around the Laurel Field in Webb County and holds lease on more than a quarter section immediately to the south of production.

Bastrop Oil Co.'s (Properties Trading Co.) No. 1 Freitag, in southeastern Bastrop County, after standing for some weeks at 2,204 feet, drilled to 2,234 feet and cored Serpentine. It is one of a flock of tests in Travis and Bastrop hunting for Serpentine production.

In southern Bexar County, O. L. Raye is starting No. 1 Thomas Dillon a few miles west of Elmendorff in the De Luna grant, to be an Edwards lime test.

In Goliad County, Sam Vanderweiss' No. 1 Kauffman found the sand at about the same depth as the F. P. Zoch's No. 1 Kauffman which came in a gasser making a little oil. Vanderweiss got sand at 4,244-64 feet but it was very hard and wore out rock bits. It was reaming down late in the week intending to ream to 4,242 feet and then make a drill stem test. It showed some oil.

This is the second test drilled since Zoch brought in the discovery well about two years ago. Slick-Seeligson drilled a test 600 feet south of Zoch and missed it. Vanderweiss is about a half mile east. The three tests are about 9 miles east of the Pettus Field in Bee County.

Carroll Brown's No. 1 Beckley, in northwestern Live Oak County, a few miles northeast of the Jacob Pool in McMullen County, late in the week cored sand showing oil from 1,050-64 feet. The core from 1,056-60 feet was not recovered but the other sections showed oil saturation and a drill stem test was being arranged.

Production in the Jacob Pool is at less than 1,000 feet and this is probably in the same sand. The Jacob production has been extra profitable. Eight wells have been completed and some made initial flows of over 100 bbls. daily. The field has been responsible for a lot of wildcat operations up to 10 miles away and some within a few miles.

### Kleberg County

Ted Harris' No. 1 Dennett, in Kleberg County, at the north end of the Kingsville Field on Lot 7 of Section 38, is down 2,230 feet and coring. This is the first test that has been drilled in that area for several years. Humble is operating the producing wells a little to the south of the location. Harris blocked 3,000 acres laying to the northeast of the Humble wells and he has contracted to drill four tests to a depth of 3,500 feet. The Humble wells are producing at about 2,250 feet. It is understood the Watchorn Oil Co. of Oklahoma has become interested in the deal.

Harris' No. 1 Dennett has had gas showing at 1,400 feet, 1,600 feet and 1,820 feet, and some slight oil showings, and at last report was coring at 2,230 feet.

## Wildcat Operations in Southwest Texas

Week Ending January 14

**ARANSAS COUNTY**

| Company, farm and location— | Remarks: |
|---|---|
| F. E. Kestler's No. 1 McCampbell, 160 ft. from N and E lines of Lot 1, Blk. 55, McCampbell ranch | T.D. 3,200 ft; drlg. |

**BANDERA COUNTY**

| | |
|---|---|
| Van Winkle's No. 1 R. B. Watson, 600 ft. N of cen. of S line of Sec. 71 | T.D. 400 ft; standing. |
| E. A. Parkford's No. 1 Duke, 200 ft. from S line, 150 ft. from W line of Sec. 7, G.C.&S.F. Sur. | Location. |

**BASTROP COUNTY**

| | |
|---|---|
| Champion's No. 1 Rivers, center W½ of 300-ac. tract in Osborne Sur. | T.D. 1,250 ft; drlg. |
| J. E. Emanuel's No. 1 H. Klemm, 317 ft. from W line, 300 ft. from S line of tract in R. S. Teal Sur. | T.D. 244 ft; S.D. |
| Humble O. & R. Co.'s No. 1 Annie Hassler, 750 ft. from W line, 330 ft. from S line of lease in Samuel Wolfenberger Sur. | Moving in. |
| Liberty Oil Co.'s No. 1 Lizzie Davis, 1,300 ft. to NW lines, 450 ft. to SW lines of 50-ac. tract in Geo. A. Stovall Sur. | T.D. 2,396 ft; pbd. |
| Marts & Beavens' No. 1 Cottingham, 316 varas to NE lines, 2,200 varas to SE lines of Elizabeth Standifer Sur. No. 24; near Elgin | T.D. 1,960 ft; abd. in chalk. |
| Marts & Beavens' No. 1 Roy Rivers, 550 varas from SE lines, 54 varas from NE lines of Mrs. Lucy Rivers' 532-ac. Elizabeth Standifer Sur. 24 | Rigging up. |
| Properties Trading Co.'s No. 1 Henry Freitag, 400 ft. from SE line, 1,300 ft. from NE line of P. Conley Sur. | T.D. 2,234 ft; cored Serpentine. |
| Nelson Pruitt's No. 1 C. Lentz, 330 ft. from NE line, 2,050 ft. from SE line of 400-ac. tract in J. B. Lentz Sur. | T.D. 2,501 ft; waiting on csg. |
| H. Robertson's No. 1 Schmidt, 25 ft. from N line, 850 ft. from W line of D. H. Dyer Sur. | T.D. 80 ft.; spudded in and S.D |
| Texas and Gant's No. 1 Mikulec, 350 ft. to NW and SW lines of tract in Wm. Barton Sur. | T.D. 1,340 ft; S.D. |

**BEE COUNTY**

| | |
|---|---|
| Nichols & Bruner's No. 1 Grover Heidenfels in John Bryan Sur., 891 ft. from S line, 1,960 ft. from E line of tract | T.D. 4,165 ft; drlg. |
| W. C. Pool's No. 1 J. C. Wood, 150 ft. N along E line of H.&G.N. Sur. from NE cor. of Mary O'Connor lease, thence 450 ft. E at right angles | Rigged up. |

**BELL COUNTY**

| | |
|---|---|
| James Scoggins' No. 2 Warrick, 1,000 ft. to NW line, 2,400 ft. to NE line of 335-ac. tract in Ingram Sur. | T.D. 1,432 ft.; fishing. |

(Continued on Page 70)

## Wildcat Operations in Louisiana-Arkansas

(Continued from Page 54)

A. W. Phillips, Tr.'s No. 1 John Knighton, 330 ft. N, 330 ft. E SW cor. NE SE, Sec. 31-20-7 ..... Derrick.
United Gas Public Service Co.'s No. 1 Meadows, approximately 100 ft. S, center E½ E½ Sec. 13-21-5... Drlg. limey shale 2,120 ft.
Webster Oil Co.'s (was Robertson & Aurand) No. 1 Smith, 200 ft. S and E, NW cor. SE NE Sec. 6-21-7.. S.D. 1,700 ft.

### CONCORDIA PARISH

M. M. Stokes' No. 1 Pan-American Life Ins. Co., 7,300 ft. W, 300 ft. N, SE cor. irregular Sec. 18-9n-10e.... Began Dec. 10; cmtd. 12-in. 160 ft; S.D. 814 ft.

### DE SOTO PARISH

Baggett et al's No. 1 Moore, 330 ft. S, 330 ft. W NE cor. NW, Sec. 1-13-15 ..... Rig.
Coker et al's No. 1 Boone, 200 ft. N and W, SE cor. SW NW Sec. 13-10-11 ..... S.D. 60 ft.
Donley & Chastain's No. 1 H. Smith, 325 ft. W, 600 ft. N, SE cor. Sec. 31-14-15 ..... S.D. 2,470 ft.
M. B. Gill's No. 1 W. J. Hill, 330 ft. N, 330 ft. E center Sec. 4-10-13 ..... Began drlg. Dec. 1; cmtd. 12½-in. 111 ft.
Honeycut O. & G. Co.'s No. 1 Porter, 423 ft. S, 414 ft. W, NE cor. NW NE Sec. 26-12-13 ..... Arranging D.S. test 2,919 ft.
S. A. Guy's No. 1 Dowling, 469 ft. E, 383 ft. S, NW cor. NE Sec. 31-14-14 ..... D.S. test 3,075 ft.; dry; W.O.
Mrs. A. L. Ibach, tr.'s No. 1 Rambin, 250 ft. S and E, NW cor. NE NE Sec. 32-11-11 ..... Top Nacatoch 1,180 ft; chalk 1,270 ft; drlg. 1,435 ft.
E. T. Oakes' No. 1 R. H. Bryant et al, 300 ft. N and W, SE cor. NE NW Sec. 30-13-15 ..... Cored Oolitic lime showing oil 4,240-60 ft; coring 4,515 ft.
DeSoto Dev. Co.'s No. 1 Nickey, Sec. 7-13-13 ..... Partly rigged up and S. D.
Geo. L. Pace's No. 1 John Cole, 200 ft. N, 150 ft. E, SW cor. SE NE Sec. 11-11-11 ..... Rig up.
G. C. Smith et al's No. 1 Wolluma, 330 ft. N and W, SE cor. Sec. 30-12-12 ..... S.D. chalk 1,520 ft.
E. J. Stanberry's No. 1 Naborton O. & G. Co., Sec. 32-13-11 ..... Drlg. shale and chalk 1,075 ft.
State Drlg. & Prod. Co.'s No. 1 Wemple, 330 ft. N and E, SW cor. NW SW Sec. 14-12-11 ..... S.D. chalk 1,205 ft.
Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13 ..... Swabbing tubing; show oil, water and gas 2,765 ft.
Warren & Craig's No. 1 J. A. Wagner, 150 ft. S and W from C, Sec. 5-12-14 ..... Drlg. 1,910 ft.
Jack Whitson's No. 1 Sanders, 330 ft. N and E, SW cor. Sec. 19-11-13 ..... Tested dry; top Blossom 2,025 ft. S.D. for csg.; claim 4-ft. sand showing oil; cmtd. 6-in. 2,713 ft; T.D. 2,750 ft.

### GRANT PARISH

A. W. Phillips, tr.'s No. 1 Cameron, 300 ft. N, 200 ft. E, SW cor. SW NW Sec. 26-7-3w ..... Cmtd. 10-in. 60 ft; S.D.
O. Robichaux's No. 1 T. M. Bradford, 1,870 ft. E, 314 ft. S, NW cor. Sec. 16-9n-1e ..... Derrick.
H. H. Temple's No. 1 Edenborn Est., 2,640 ft. E, 550 ft. S, NW cor. Sec. 20-7-3w ..... Derrick pattern.
H. H. Temple's No. 1 Guaranty State Bank, 300 ft. E, 200 ft. S, NW cor. Sec. 9-5-1 ..... Location.

### MOREHOUSE PARISH

Feazel & Kaill's No. 1 Davenport, Sec. 28-21-4e ..... S.D. 2,510 ft.
H. G. Samson's No. 1 Barnes & Sullivan, NE cor. SW Sec. 12-21-7 ..... Derrick pattern.
H. W. Snowden's No. 1 Meyers, 330 ft. S and E, SW cor. NE NE Sec. 15-22-7e ..... S.D. 30 ft.

### NATCHITOCHES PARISH

Allender & Rasmussen's No. 1 Cane River, 330 ft. N and W, SE cor. Sec. 61-6n-5w ..... S.D. 100 ft.
W. M. Coates' No. 1 Ross Olive, Sec. 10-9-10, 660 ft. S and E from cen. of Sec. ..... S.D. fuel, 2,150 ft.
J. B. Oil Co.'s No. 1 Hankins et al, Sec. 67-10-7 ..... S.D. 670 ft.
Natchitoches Pet. Co.'s No. 1 Edenbarn, 2,240 ft. W, 1,320 ft. S, NE cor. Sec. 4-11-6w ..... Drlg. 2,515 ft.
Sampson et al's No. 1 Friedman estate, 406 ft. N, 428 ft. E SW cor. Friedman estate in Sec. 52-7-6 ..... Derrick pattern.
Texana Oil Co.'s No. 1 Clark-Morris Lbr. Co., 878 ft. N, 560 ft. E, C, Sec. 23-5-6 ..... Set 6⅝-in. 3,300 ft.; tested S.W. 3,475 ft.

### OUACHITA PARISH

Inabnet & Pipe's No. 1 Van Horn, 1,980 ft. N, 660 ft. E, C Sec. 14-18-5 ..... Rig up; W.O.
Millhivan Gas Corp.'s No. 1 W. Va. L. & T. Co., 1,980 ft. E, 1,320 ft. N, center Sec. 10-17-8e ..... Location.
Monroe Oil & Royalties Co.'s No. 1 Thieler, 150 ft. N and E, SW cor. SE NW Sec. 34-18-2e ..... S.D. 2,575 ft.

### RAPIDES PARISH

Evers & Collingsworth's (was A. G. Beck et al) No. 1 Hickman-Simmons Lbr. Co., 330 ft. S, 330 ft. W, NE cor. SW SW Sec. 32-4-1e ..... Derrick.
Pet. Industries, Inc.'s No. 1 Lee Lbr. Co., 330 ft. N, 300 ft. W, SE cor. NW SE Sec. 13-5n-2e ..... Derrick.

### RED RIVER PARISH

Edward & Clay's No. 1 Delta Pecan Co., 1,600 ft. N, 450 ft. E, SW cor. Sec. 27-12-11 ..... S.D. 1,700 ft.
H. M. Jones' No. 1 A. N. Sample, 330 ft. S, 330 ft. E, NW cor. Sec. 10-14-11 ..... Location.
G. T. Shaw et al's No. 1 Wilkinson, 300 ft. N, 460 ft. W, SE cor. NE SE Sec. 4-12-10 ..... Drlg. 1,500 ft.

### RICHLAND PARISH

Humble Prod. Co.'s No. 1 fee, SW NW Sec. 11-14-6 ..... Location.

### SABINE PARISH

Coates Pet. Co.'s No. 3 Stille, 330 ft. N and E, SW cor. Sec. 35-8-13 ..... Location.
Craft & Primm's No. 1 C. Alford, 720 ft. S, 460 ft. E, NW cor. SW NW Sec. 18-7-10 ..... Drlg. 1,375 ft.
Flinchbaugh & Myers' No. 1 Aaron, 250 ft. S and E, NW cor. Sec. 33-9-13 ..... Rigged up on second hole; W.O
Frank Foster, Inc.'s No. 1 C. J. Gaddis, 200 ft. S and W, NE cor. Sec. 20-9-11 ..... Drlg. shale 3,042 ft.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW Sec. 10-8-13 ..... S.D.; shale and lime 6,880 ft.
R. T. Henderson's No. 1 Sistrunk, 450 ft. N, 150 ft. W, C, Sec. 9-9-12 ..... Cmtd. 6-in. 1,670 ft; T.D. 1,674 ft.
Hells et al's No. 1 Sabine State Bank, 350 ft. N and W, SE cor. SW SW Sec. 28-8-11 ..... Cmtd. 6-in. top marl 2,236 ft.
Ab Jones' No. 1 Garcia, 200 ft. S and W, NE cor. NW SE Sec. 4-7-13 ..... T.A. 2,070 ft.
G. E. Jordan's No. 1 Dew, 330 ft. N, 340 ft. E, SW cor. SW SE Sec. 34-8-11 ..... Cmtd. 6-in. 2,351 ft.
G. W. Langley et al's No. 1 Peavy-Wilson Lbr. Co., 330 ft. S and W, NE cor. Sec. 16-5-9 ..... Derrick.
Geo. LeGrand's No. 1 McGough, 300 ft. S, 300 ft. E, NW cor. SW NW Sec. 2-8-10 ..... Bailing to test; T.D. 2,410 ft.
C. D. Loe, tr.'s No. 1 Whitney, 330 ft. N and W, SE cor. NW NE Sec. 12-9-14 ..... Top marl 1,548 ft; drlg. 1,800 ft.
Ben Merritt's No. 1 Lucias, 400 ft. N, 378 ft. E, SW cor. SW NE Sec. 4-5-13 ..... Derrick.
H. W. Perritt's No. 3 Brown Lbr. Co., 513 ft. S, 455 ft. W, NE cor. NW NE Sec. 31-8-10 ..... Cmtd. 6-in. top marl 2,529 ft; tested dry 2,600 ft; arranging to deepen.
Roy Raines et al's No. 1 Beard, 730 ft. E, 700 ft. N, SW cor. SW SE Sec. 8-8-10 ..... Set 10-in. 41 ft; drlg. 400 ft.
Reeves & McNeely's No. 1 Ponder, 336 ft. N and W from C, Sec. 16-7-11 ..... Began drlg. Nov. 7; cmtd. 10-in. 31 ft.
Thornton et al's No. 1 S. S. Martinez, 355 ft. S, 330 ft. W, NE cor. SE NE Sec. 4-7-12 ..... S.D. 2,048 ft.
Otis A. Roberts' No. 1 Sabine Lbr. Co., 324 ft. S, 481 ft. W, NE cor. SW NE Sec. 5-7-13 ..... S.D.; W.O. 2,500 ft.
Roberts & Sledge's No. 1 La. Long Leaf Lbr. Co., 990 ft. N, 468 ft. E, SW cor. NE SE Sec. 29-8-10 ..... Derrick.
Roberts & Sledge's No. 2 Sabine Lbr. Co., 803 ft. W, 796 ft. N, SE cor. SE SW Sec. 5-7-12 ..... W.O.S.R. 2,480 ft.
Roshko & LaBane's No. 1 Maines, 427 ft. E, 114 ft. N, SW cor. SE SE Sec. 35-8-11 ..... S.D. 1,650 ft.

### CONVERSE DISTRICT

Alford & Cleary's No. 1 Jackson, 330 ft. N and E, SW cor. SE NW Sec. 10-9-13 ..... Location.
Alford & Cleary's No. 1 Patrick, 330 ft. S and W, NE cor. SW NE Sec. 11-9-13 ..... Location.
Cloud & Bolin's No. 1 Bowman-Hicks, SE cor. NE NE Sec. 24-8-13 ..... Cored sand and marl 1,724 ft.; bailed down 1,200 ft.; no show; dry 2,200 ft; bailed dry; S.O. and S.D. 2,210 ft.
Evans Bros.' No. 1 Cranford, 300 ft. S, 300 ft. W NE cor. SE SE, Sec. 20-9-13 ..... Drlg. 800 ft.
H. P. Key's No. 1 T. J. Paul, 120 ft. S, 110 ft. W, NE cor. Blk. 35, Converse townsite in Sec. 10-9-13 ..... Location.
Gibson & Johnson, Inc.'s No. 2 Frost Lbr., 330 ft. S and W, NE cor. NW NE Sec. 15-9-13 ..... Arranging acid test 1,901 ft.
Lambert et al's No. 1 Edwards, 300 ft. S and E, NW cor. SW NW Sec. 29-9-13 ..... Location.
H. C. Lessenger's No. 1 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. Sec. 13-9-13 ..... Derrick.
Lee & Burnett's No. 1 Burckett, 330 ft. N and W, SE cor. NW SW Sec. 10-9-13 ..... Tested dry 1,795 ft; W.O.
Hy Rockmill's No. 1 Cassell, 330 ft. S, 330 ft. W, NE cor. Sec. 35-9-14 ..... Derrick.
Rockmill et al's No. 1 Bowman-Hicks, 330 ft. S and W, NE cor. NW Sec. 36-9-14 ..... S.D. 1,100 ft.
Nick Barbare's No. 1 Ryals, 330 ft. S and E, NW cor. Sec. 27-9-13 ..... Cmtd. 6-in. 1,515 ft.; top sand 1,535 ft; tested dry; W.O.; T.D. 1,555 ft.
Rockmill et al's No. 1 Patrick, 330 ft. S, 330 ft. E, NW cor. NE NW Sec. 21-9-13 ..... Rig up.
E. M. Self's No. 1 Paul, 330 ft. N and W, SE cor. NE SW Sec. 9-9-13 ..... Derrick.
Service Drlg. & Royalty Corp.'s No. 1 Whitney Corp., 330 ft. N and W, SE cor. Sec. 32-10-13 ..... Top marl 1,551 ft; S.D. fuel, 1,600 ft.
Ben Youngblood et al's No. 1 Burket, 330 ft. S and W, NE cor. NE NW Sec. 10-9-13 ..... Derrick.
Roshko & Labarre's No. 1 Maines, 427 ft. E, 114 ft. N, SW cor. SE NE Sec. 35-8-11 ..... Fishing for bit; T.D. 1,072 ft.
Sabine Prod. Co.'s No. 1 Whiting Corp., 150 ft. N and E, SW cor. Sec. 4-9-13 ..... Top marl 1,470 ft. and cmtd. 6-in.; drlg. 1,730 ft.; tested S.W., small show gas 2,184 ft; S.D. 2,207 ft.
Skidmore & Mize's No. 1 Stoker, 440 ft. N, 225 ft. E, SW cor. SE NW Sec. 32-8-10 ..... S.D. 1,450 ft.
C. W. Smith et al's No. 1 Pattison, 330 ft. S and E, NW cor. SE NW Sec. 32-10-11 ..... Arranging to set 6-in. 3,440 ft.
Southland Drlg. Co.'s No. 1 Frost Lbr. Co., 330 ft. N and W, SE cor. NE NE Sec. 13-9-11 ..... S.D. fuel, 2,337 ft.
Triangle Drlg. Co.'s No. 1 La. Long Leaf Lbr. Co., 330 ft. N and W, SE cor. Sec. 11-6-11 ..... S.D. 4,013 ft.
W. M. Ungerman's No. 1 F. Cross, 53 ft. S, 146 ft. W, NE cor. SW SE Sec. 25-8-11 ..... Cmtd. 6-in. at 3,421 ft; drilled plug; S.D.
Zwolle Prod. Co.'s (was Baird Bros.) No. 1 Tatum, SW NE Sec. 25-8-12 ..... Fishing for tools 1,200 ft.

### TENSAS PARISH

H. V. Schumacker's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor. Sec. 39-11-13 ..... Reaming to bottom; T.D. 3,645 ft.

### UNION PARISH

E. S. Goens et al's No. 1 Frost Lbr. Co., 330 ft. S and E, NW cor. Sec. 17-22-2e ..... Cored sand showing gas 1,045-48 ft; S.D.
W. D. Wingfield et al's No. 1 Union Sawmill Co., 330 ft. N and E, SW cor. Sec. 27-23-1e ..... Drlg. 2,410 ft.

### VERNON PARISH

Earl Jones' No. 1 Willis, 350 ft. N 400 ft. E, SW cor. SE SE Sec. 32-3n-9w ..... Cmtd. 10-in. 110 ft; drlg. 500 ft.
Llano Co-operative Colony's No. 1 fee, NW NE Sec. 34-3n-9w ..... Reaming to bottom; T.D. 3,629 ft.

### WEBSTER PARISH

J. E. Bundy's No. 1 Walker, 300 ft. S, 300 ft. W, NE cor. SE NW Sec. 11-18-10 ..... Derrick pattern.
R. E. Silvey et al's No. 1 Drake est., C NE NE Sec. 14-19-10 ..... S.D. 2,794 ft; shale.

### WEST CARROLL PARISH

Mamie S. McCurry's No. 1 Richard & Donnaw, 300 ft. N and E, SW cor. Sec. 13-19-9e ..... Rigging up.

### WINN PARISH

P.V.T. Oil Co.'s No. 1 Southern Paper Co., 150 ft. S and W, NE cor. SW Sec. 28-13-3 ..... S.D. for 8-in. csg. 1,050 ft.

## Arkansas

### CLEBURNE COUNTY

Frank S. Craver et al's No. 2 Doniphan Lbr. Co., 700 ft. N, 200 ft. E, SW cor. SW Sec. 34-11-9 ..... S.D; W.O. 2,409 ft.

### COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenweider, 300 ft. S and E, NW cor. NE NE Sec. 13-17-22 ..... Cmtd. 6-in. 2,460 ft.; claim show oil and gas 2,520 ft.; bailed down 1,100 ft.; S.W. show.

### JEFFERSON COUNTY

R. V. Harrell et al's No. 1 McGoughey NW cor. Sec. 22-7-10 ..... Began drlg. Jan. 4; cmtd. 10-in. 60 ft; S.D. 115 ft.

### LAFAYETTE COUNTY

Chas. McDonald's No. 1 Allen, 400 ft. N and W, SE cor. SE SW Sec. 2-19-26 ..... Top Nacatoch 1,765 ft.; top chalk 2,247 ft; S.D. 2,765 ft.
Sam E. Wilson, Jr.'s No. 1 Smith, 330 ft. N and E, SW cor. NW SE Sec. 24-19-25 ..... Derrick.

### LITTLE RIVER COUNTY

American Portland Cement Co.'s No. 1 fee, 150 ft. S and E, NW cor. SW NE Sec. 21-12-32 ..... Cmtd. 10-in. 100 ft; drlg. 320 ft.
M. E. Sanderson's No. 1 Hale, 1,200 ft. E, 800 ft. N, SW cor. SE SE Sec. 22-12-29 ..... S.D. 1,405 ft.

### MILLER COUNTY

Baker & McMurray'; (was Roy Baker et al's) No. 1 Olivet, 200 ft. S, 200 ft. E, NW cor. NE NE Sec. 4-16-26 ..... Dry 2,930 ft; arranging to deepen.
Baker & McMurray's No. 1 Andrew Rose, 150 ft. S and W, NE cor. NE NW Sec. 4-16-26 ..... Location.
Capt. E. Byrd's No. 1 Miller Land & Lbr. Co., 1,320 ft. N and W, SE cor. Sec. 29-18-27 ..... Derrick.
John M. Burnham's No. 1 E. L. Beck, 150 ft. N and E SW cor. SW NE Sec. 33-15-26 ..... Location.
John DeGrozier's No. 1 Andrew Rose, 150 ft. S and E, NW cor. N½ N½ NW NW Sec. 4-16-26 ..... Location.
Duluth-Ark. Oil Co.'s No. 1 Beck, 150 ft. N, 170 ft. E, SW cor. NW SW Sec. 34-15-26 ..... D.S. test dry 2,935 ft; washing to bottom; T.D. 3,942 ft.
John DeGrozier's No. 2 Andrew Rose, 155 ft. S and E, NW cor. N½ NE NE Sec. 4-16-26 ..... Location.
Fitzwater et al's No. 1 C. J. Norsen, SW cor. SE SW Sec. 20-15-27 ..... S.D. 1,940 ft.

Fitzwater et al's No. 1 Fouke, 150 ft. S and W, NE cor. Sec. 11-17-27 ..... Cmtd. 12¾-in. 105 ft; S.D.
Lee L. Foster's No. 1 Geo. Jones, 660 ft. N, 200 ft. W, SE cor. NW NW Sec. 29-16-26 ..... Began drlg. Jan. 5; S.D. 40 ft.
Hapgood et al's No. 1 Rose, SE cor. NE SE Sec. 7-16-26 .. Began drlg. Jan. 7; drlg. 1,400 ft.
Jenkins Bros.' (was Roy Jenkins et al's) No. 1 B. F. Smith, 330 ft. W, 330 ft. N, SE cor. SE SE Sec. 32-15-26 ..... Rigging up.
Jenkins Bros.' No. 2 Smith, 150 ft. S and W, NE cor. SE SE Sec. 32-15-26 ..... Location.
Jenkins Bros.' No. 3 Smith, 150 ft. S, 710 ft. W, NE cor. SE SE Sec. 32-15-26 ..... Location.
Jenkins Bros.' No. 4 Smith, 150 ft. S and E, NW cor. SE SE Sec. 32-15-26 ..... Location.
Chas. B. Lenz' No. 1 Dean, 125 ft. E, 200 ft. S, NW cor. SE Sec. 19-15s-25w ..... T.A. 2,852 ft.
Bob Manziel's No. 1 B. F. Smith, 150 ft. N and W, SE cor. 8½ 8½ NE NE Sec. 32-15-26 ..... Derrick.
Bob Manziel's No. 2 Smith, 150 ft. N, 660 ft. W, SE cor. NE SE Sec. 32-15-26 ..... Location.
Bob Manziel's No. 3 Smith, 150 ft. N and E, SW cor. NE SE Sec. 32-15-26 ..... Location.
Molar Oil Club's No. 1 A. M. Gibson, NW cor. SW Sec. 30-18-27 ..... Derrick.
C. H. Nelson et al's No. 1 Rose, 155 ft. S, 155 ft. W, NE cor. SE NW Sec. 4-16-26 ..... Began drlg. Jan. 10; drlg. 50 ft.
W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor. Sec. 11-20-27 ..... S.D.; W.O. 2,600 ft.
R. M. Olds' No. 1 E. D. Olivet, 150 ft. S and W, NE cor. NE SW Sec. 4-16-26 ..... Location.
J. D. Reynolds' No. 1 E. L. Beck, 480 ft. E, 350 ft. N, SW cor. SW SE Sec. 35-15-26 ..... Location.
J. D. Reynolds' No. 1 B. F. Smith, 150 ft. N and W, SE cor. SE SW Sec. 32-15-26 ..... Location.
John C. Rogers' No. 1 Price, 330 ft. S, 400 ft. E NW cor. NW NW Sec. 17-16-25 ..... Rig up; S.D.
Scrivens & Tidwell's No. 1 Roy McCowan, 660 ft. S and E, NW cor. NW SE Sec. 22-15-28 ..... Set 10-in. 106 ft.; top Nacatoch 778 ft.; S. D.
C. E. Starr's No. 1 Barker, 330 ft. S, 150 ft. E, NW cor. NW SE Sec. 21-17-26 ..... Rigging up.
Stephens, Byers & Sartain's No. 1 Lowe, 660 ft. S, 200 ft. E, NW cor. SE NW Sec. 14-16-27 ..... Drlg. 2,350 ft.
A. C. Taylor's No. 1 Williams, 150 ft. N and E, SW cor. SW NE Sec. 5-16-26 ..... Location.

OUACHITA COUNTY

Chas. Steele et al's No. 1 Anderson, 155 ft. S, 150 ft. E, from center Sec. 36-13-18 ..... T.D. 1,015 ft.

PRAIRIE COUNTY

Powell Creek O. & G. Co.'s No. 1 Kloss, NE SW Sec. 3-4n-6w ..... Partly rigged up and S.D.

UNION COUNTY

E. H. Cassity, tr.'s No. 1 F. L. Dumas, 200 ft. N, 200 ft. W, SE cor. SE SW Sec. 10-17-16 ..... Coring 1,062 ft.
Graves, Ferguson & Fuller's No. 1 Patterson, SW cor. NE NE Sec. 31-19-16 ..... Began drlg. Dec. 23; cmtd. 10 in. 103 ft; S.D.
Mamie McCurry et al's No. 1 Rowland, 200 ft. N and E, SW cor. Sec. 9-19-11 ..... Derrick.
Pigeon Hill Oil Co.'s No. 1 Union Sawmill, 150 ft. S, 100 ft. E, NW cor. NE NE Sec. 9-17-13 ..... Ratholing 2,260 ft.
Wilson & Chapman's No. 1-A D. Norman, 330 ft. S and E, NW cor. N½ NE SE Sec. 3-18-13 ..... S.D. 1,678 ft.

WOODRUFF COUNTY

R. F. Thompson's No. 1 Rosser, 500 ft. N and E, SW cor. SE SE Sec. 7-5n-2w ..... Reported abd. in error; drlg. gumbo, shale and streaks of lime 732 ft.

YELL COUNTY
(Cable tools)

Rainbow Oil & Gas Co.'s No. 1 Barrett SE cor. NE NE Sec. 16-5n-24 ..... Began drlg. Dec. 1; S.D. 100 ft.

## East Texas

BOWIE COUNTY

Roy Anderson et al's No. 1 Breckenridge, center 465-ac. Breckenridge tract in Nancy Dycus Sur. ..... Fishing bit 3,005 ft.
Tom Bell et al's No. 1 Mars, 1,800 ft. N, 2,160 ft. W, NE cor. 465-ac. tract in O. D. Watson Sur. ..... Drlg. shale 960 ft.
Lanford et al's No. 1 W. W. Whybark, 200 ft. S, 200 ft. W, SW cor. J. H. Dyer Sur. ..... S.D. 3,248 ft.

CASS COUNTY

Davis & Digg's (now Joiner Pet. Co.'s) No. 1 Roy Bryan, SW cor. Roy Bryan 88-ac. tr., Albert H. Latimer Sur. ..... S.D. 2,860 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. ..... S.D. 4,390 ft.

HARRISON COUNTY

Great Eastern Oil Co.'s No. 1 Rudd, Wm. Steele Sur. .... 10-in. 96 ft; 8-in. 646 ft; small show gas 1,575 ft; S.D.
A. E. Roscoe et al's No. 1 Vever Towell, NW cor. H. T. Edwards' 340 acres in Louis Watkins Sur. ..... Cored Woodbine 3,000-16 ft.

MARION COUNTY

Baunoch Dev. Co.'s No. 1 Miller, 735 ft. N, 1,470 ft. E, SW cor. H. Fulgram Sur. (was Gist, Claunch & Dodson) ..... S.D. 4,580 ft.
Geo. Hindeman et al's No. 1 F. V. Lindsey, 2,500 ft. S most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. ..... S.D. 2,280 ft.
Starling & Preston's No. 1 Henderson, R. Bennington Sur. H.R.S. ..... Drlg. chalk and shale 2,250 ft.

PANOLA COUNTY

Carter-Skidmore et al's No. 1 C. J. Wooten et al, 785 ft. N, 185 ft. E, SW cor. C. J. Wooten tract in P. Martin Sur. ..... Location.
Hampton Drlg. Co.'s No. 1 Lloyd Thompson, 330 ft. N, 330 ft. W, NW cor. C. Flanagan Sur. in Allen Leach Sur. ..... Location.
Root-Skinner's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur. ..... S.D. for D.S. 740 ft.
J. L. Nelson et al's No. 1 J. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr., James Hanks Sur. .... S.D. 3,055 ft.

RED RIVER COUNTY

Aje Oil Co.'s No. 1 Nichols & Daniels, center S 750 acres of 1,500-ac. tract in Hugh B. Shaw Sur. ..... Location.
Concord Oil Co.'s No. 1 Dilliahunty, 500 ft. N, 200 ft. W, SE cor. Robt. Glass Sur. ..... S.D. 2,774 ft.
L. S. Priest et al's No. 1 R. W. Peck, 500 ft. W, 900 ft. N, most southerly SE cor. 220-ac. tract in Abram Wagley Sur. ..... S.D. 1,302 ft.

SHELBY COUNTY

J. H. Francis' (now Bob Chew et al's) No. 1 John Mims, Mary Smith Sur. ..... Tested dry 2,842 ft; S.D. 3,488 ft.
General Minerals Co.'s No. 2 Pickering Lbr. Co., 600 ft. N, 400 ft. E, SW cor. D. S. Height Sur. ..... Arranging to cmt. 6-in. 3,900 ft.
Oil News' No. 1 Pickering, C. H. Patterson Sur. ..... Reaming 3,360 ft.
Nell Lease & Oil Well Synd.'s No. 1 W. P. Harvey, NW cor. W. P. Harvey 158 ac. in W. P. Harvey Sur. ..... Derrick pattern.
Prairie Creek Crude Co.'s No. 1 Ellington, 150 ft. and 300 ft. W from SE cor. 42-ac. tr., J. Burleson Sur. ... Cmtd. 6-in. 3,360 ft; drlg. plug.
Ridgeway et al's (now Roy F. Smith's) No. 1 Polley, Domingues Gonzales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tract .... S.D. 3,045 ft.
Redberry et al's No. 1 Pickering Lbr. Co., 600 ft. N, 400 ft. E, SW cor. Jane Stoddard Sur. ..... S.D. 2,375 ft.
Gray & Dunbar's No. 1 C. A. Hayden, 600 ft. N and W, SE cor. 152-ac. tr. in D. T. F. Yordt Sur. ..... S.D. for wtr. 2,380 ft.

# Louisiana-Arkansas Proven Areas

## North Louisiana

BOSSIER—BELLEVUE AREA

Company, well, farm name, section and block— Remarks:
H. I. Morgan's No. 2 Smith, 1,520 ft. N, 660 ft. W, SE cor., Sec. 22-19-11 ..... Fishing D.S. 3,969 ft; red beds.

CADDO—RODESSA AREA

United Gas Public Service Co.'s No. 1 Levee Board, 1,980 ft. N, 1,320 ft. E, SW cor. Sec. 27-23-16 ..... Drlg. lime 4,907 ft.

CADDO—BLANCHARD AREA

Nick Barbare's No. 1 Puckett, 330 ft. S, 150 ft. W, NE cor. Sec. 6-15-16 ..... S.D.; W.O. 2,810 ft.
Louana O. & G. Co.'s No. 1 Carrie et al, 1,320 ft. W, 660 ft. S, NE cor. SE Sec. 32-19-16 ..... Tested estimated 5,000,000 ft. gas; arranging cmt. 6-in. 2,740 ft.
Louana O. & G. Co.'s No. 1 Waskom, 660 ft. N and E, SW cor. Sec. 29-19-16 ..... Set 10-in. 60 ft.
Pyramid Oil Corp.'s No. 2 C. C. Wheeler, 660 ft. S, 250 ft. E, NW cor. Sec. 4-18-16 ..... Derrick and moving in rig.

DE SOTO PARISH

Abernathy et al's No. 1 J. M. Nabors, 2,485 ft. E, 1,185 ft. N, SW cor. Sec. 32-13-11 ..... Tested dry 1,404 ft; arranging to deepen.

OUACHITA PARISH

Carbon Consolidated's No. 7 Guthrie, 1,025 ft. N, 910 ft. E, SW cor. Sec. 23, in Sec. 50-20-4e ..... Drlg. 2,000 ft.

SABINE PARISH—ZWOLLE

J. H. Askew's No. 3 Henderson, 400 ft. S, 150 ft. E, NW cor. SW SE Sec. 31-8-10 ..... Derrick.
H. H. Alvord's No. 1 Sabine State Bank, 330 ft. N and E, SW cor. NW SW Sec. 28-8-11 ..... Drlg. 1,620 ft.
Baird Bros.' No. 3 Martinez, 1,013 ft. S, 997 ft. E, NW cor. NW SW Sec. 2-7-13 ..... Tested dry 2,410 ft.; arranging to deepen.
Baird, Stone & McFaddin's No. 1 Duggan, 150 ft. S and W, NE cor. SE Sec. 14-7-11 ..... W.O.S.R. 2,637 ft.
C. W. Beene et al's No. 1 Cutrer, 200 ft. N and E, SW cor. NW Sec. 12-7-11 ..... Derrick.
Brown Lbr. Co.'s No. 1 fee, 330 ft. E, 520 ft. N, SW cor. NW NE Sec. 1-7-11 ..... Rigging up.
Cameron Oil Co.'s No. 1 G. Martinez, 545 ft. E, 540 ft. N, SW cor. Sec. 2-7-13 ..... Cmtd. 6-in. 2,022 ft; T.D. 2,064 ft.
Capitol-Crescent Oil Co.'s No. 1 Sabine State Bank, 990 ft. E, 338 ft. N, SW cor. NW SW Sec. 2-7-13 ..... Derrick.
T. B. Carpenter's No. 1 Cutrer, 330 ft. S and E, NW cor. SE Sec. 12-7-11 ..... Cmtd. 6-in. 2,546 ft.
Continental Drlg. Co.'s No. 1 Jones est., 70 ft. N, 200 ft. W, SE cor. Sec. 31-8-12 ..... Drlg. 1,300 ft.
Craig et al's No. 1 Ponder, 330 ft. N and E, SW cor. SE NW Sec. 15-7-11 ..... Began Dec. 12; S.D. 50 ft.
Crescent Drlg. Co.'s No. 1 Malbry, 660 ft. N and E, SW cor. SE NW Sec. 2-7-11 ..... Derrick.
Edwards & Hubler's No. 1 G. Martinez, 510 ft. S, 230 ft. E, NW cor. SW SW Sec. 2-7-13 ..... Derrick.
V. R. Hammons et al's No. 1 Travis, 540 ft. N, 150 ft. E, SW cor. NW SE Sec. 13-7-11 ..... S.D. chalk, 2,610 ft.
D. D. Holcomb's No. 3 Quayhagiew, 149 ft. N, 200 ft. E, SW cor. SE SE Sec. 11-7-11 ..... W.O.S.R. 2,652 ft.
E. L. Hunt's No. 2 Livingston, 330 ft. S and E, NW cor. SW NW Sec. 9-7-11 ..... Top marl 2,340 ft; arranging to set 6-in.
H. M. Jones' No. 1 Raines, 300 ft. S, 150 ft. W, NE cor. NW NW Sec. 14-7-11 ..... Arranging acid test 2,660 ft.
Kilgore et al's No. 2 Thomas, 330 ft. E, 330 ft. N, SW cor. SW NE Sec. 30-8-11 ..... Tested dry 2,319 ft. and 2,483 ft; drlg. 2,583 ft.
Lion Oil Ref. Co., 104 ft. N and E, SW cor. SE NE Sec. 30-8-11 ..... Derrick.
Loring Oil Co.'s No. 21 Bowman-Hicks, 450 ft. S, 275 ft. E, NW cor. SW NW Sec. 16-7-12 ..... Fishing D.S. 5,439 ft.
Lowery & Green's No. 1 Adair, 330 ft. N and W, SE cor. SE SW Sec. 19-8-11 ..... Derrick.
Martin et al's No. 1 Porter, 330 ft. S, 330 ft. W, NE cor. NW SW Sec. 30-8-11 ..... Derrick.
L. K. McGuffin's No. 2 Chadick, 200 ft. S, 200 ft. W, NE cor. NW SW Sec. 32-8-10 ..... Location.
H. C. Moulding's No. 1 Brumley, 330 ft. N, 330 ft. E, SW cor. NW NW Sec. 2-7-11 ..... Began drlg. Jan. 8; cmtd. 10-in. 41 ft.
Paul L. Miller's No. 3 Chadick, 550 ft. N, 430 ft. E, SW cor. SE NW Sec. 32-8-10 ..... Rigging up.
C. D. Neff, tr.'s No. 2 Snell, 400 ft. E, 330 ft. N, SW cor. SE SE Sec. 9-7-11 ..... Top marl 2,368 ft; cmtd. 6-in. 2,370 ft; standing 1,100 ft. fluid; T.D. 2,588 ft; rigging up to deepen.
E. F. Neely's No. 5 Ponder, 580 ft. S, 870 ft. W, NE cor. Sec. 16-7-11 ..... Standing 700 ft. fluid; W.O. 2,563 ft.
E. F. Neely's No. 6 Ponder, 450 ft. N, 150 ft. W, SE cor. SW NW Sec. 15-7-11 ..... Cmtd. 6-in. top marl, 2,282 ft.
Nowlin & Cherry's No. 1 Turner, 109 ft. N, 330 ft. W, SE cor. Fractional NW NW Sec. 4-7-11 ..... Fishing D.S. 1,600 ft.
Pelican Nat. Gas Co.'s No. 19 La. Long Leaf Lbr. Co., 330 ft. N and E, SW cor. SE ..... Derrick.
H. L. Patton's No. 1 Ponder, 330 ft. N and W, C Sec. 15-7-11 ..... Top marl 2,376 ft; S.D.
Perkins & Babbin's No. 1 Hopkins, 260 ft. S, 270 ft. W, NE cor. NE SW Sec. 11-7-11 ..... Rigging up.
G. N. Pharis, Tr.'s No. 1 Cutrer, 990 ft. S, 330 ft. E, center Sec. 13-7-11 ..... Derrick.
T. L. Phillips et al's No. 1 Haley, 330 ft. S and E, NW cor. NW SE Sec. 6-7-12 ..... Derrick.
Picayune Oil Co.'s No. 1 Porter, 330 ft. N and W, SE cor. NW SW Sec. 30-8-11 ..... Began drlg. Nov. 21; cmtd. 10-in. 40 ft.; S.D. 1,818 ft.
Sam Riggs, tr.'s No. 1 Darby, N half SE Sec. 21-7-11 ... Cmtd. 7-in. 2,504 ft; T.D. 2,556 ft.
Ritchey Prod. Co.'s No. 1 Stille, SE NW Sec. 36-8-12 .. Began drlg. Jan. 10; cmtd. 10-in. 40 ft.
Rotary Oil Corp.'s No. 1 Hale, 330 ft. S and E, NW cor. SW Sec. 1-7-13 ..... Cmtd. 6-in. 2,111 ft; T.D. 2,180 ft.
C. T. Ruffin's No. 1 Lilly, 545 ft. S, 300 ft. W, NE cor. NW NW Sec. 8-7-11 ..... Show oil; bailed dry; W.O. 2,376 ft.
E. M. Self's No. 1 Newton, 330 ft. S and W, NE cor. NE SE Sec. 1-7-11 ..... Rig up.
Scully & Beach's No. 4 Lafitte, 225 ft. E, 197 ft. S, NW cor. SW NW Sec. 12-7-11 ..... Derrick.
Scully & Beach's No. 5 Lafitte, 413 ft. E, 190 ft. W, NE cor. SW NW Sec. 12-7-11 ..... Arranging swab through tubing 150 ft. in oil; T.D. 2,492 ft.
Service Drlg. & Royalties Corp.'s No. 2 Smith, Sec. 13-7-11 ..... Top marl 2,626 ft; cmtd. 6-in. 2,628 ft; bailing; S.O. 2,814 ft.
Ben F. Smith's No. 4 Turner, NE cor. NE NW Sec. 4-7-11 ..... Derrick.
Simmons et al's No. 1 Fleming, E½ SE SE Sec. 11-8-13 .. Rigging up.
Scully & Beach's No. 3 Lafitte, 1,036 ft. S, 134 ft. E, NW cor. Sec. 12-7-11 ..... W.O.S.R. 2,492 ft.
F. E. Stancil's No. 1 Ponder, 373 ft. S, 397 ft. E, NW cor. NE SE Sec. 10-7-11 ..... S.D. 2,592 ft.
State Prod. Co.'s No. 1 Keasle, 150 ft. N and W, SE cor. NW SW Sec. 3-7-13 ..... W.O.S.R. 2,427 ft.
State Prod. Co.'s No. 1 Liles, 150 ft. S and W, NE cor. SE SW Sec. 33-8-11 ..... Derrick.
The Texas Co.'s No. 1 Ponder, 1,490 ft. S, 200 ft. W, NE cor. Sec. 16-7-11 ..... Began drlg. Jan. 4; cmtd. 10-in. 53 ft; 6-in. top marl 2,365 ft.

State Prod. Co.'s No. 1 Sabine Lbr. Co., 365 ft. N, 100 ft. W, SE cor. NW SW Sec. 3-7-13 ..... S.D. 2,427 ft.; 1,000 ft. oil.
E. M. Thomasson's No. 1 W. & H. Andries, 660 ft. N, 150 ft. W, center Sec. 22-7-11 ..... S.D. for csg. 2,300 ft.
J. H. Watt et al's No. 1 Pouder, 200 ft. S, 135 ft. W, NE cor. NW NE Sec. 15-7-11 ..... Derrick.
B. R. White et al's No. 1 Cooper, 330 ft. S and E, NW cor. SW NW Sec. 32-8-11 ..... Location.
B. R. White et al's No. 1 Stille, 620 ft. W, 205 ft. N, SE cor. NE SW Sec. 35-8-13 ..... Drlg. 1,205 ft.
Zwolle Prod. Co.'s No. 1 Tatum, 550 ft. E, 330 ft. N, C Sec. 26-8-12 ..... Drlg. 610 ft.

## Arkansas

### UNION COUNTY—URBANA

Graves, Ferguson & Fuller's No. 1 Patterson, SW cor. NE NE Sec. 31-19-16 ..... Derrick.
Wilson & Chapman's No. 2 Emily King, Sec. 2-13-13, 150 ft. S, 150 ft. E, NW cor. NE NE ..... S.D. 1,730 ft.

## East Texas

### PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur. ..... S.D. 3,359 ft.

## Mississippi

### HINDS COUNTY

Geo. P. Adkins et al's No. 1 Woodland Hills, 400 ft. N and W, SE cor. NW NE Sec. 26-6-1e ..... Derrick.

### RANKIN COUNTY

J. A. Baker et al's No. 2 Rankin Side Dev. Co., Sec. 6-5-3e ..... S.D. high wtr.; top chalk at 2,461 ft.
J. A. Matson et al's No. 1 Warner, 1,100 ft. S, 200 ft. W, NE cor. W½ SE Sec. 14-5n-1e ..... Waiting on csg. 2,477 ft.

# Wildcat Operations in Mississippi

### AMITE COUNTY

| Company, well, farm name, section and block— | Remarks: |
|---|---|
| Magnolia State O. & G. Co.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e | S.D. 400 ft. |

### CLARKE COUNTY

P. X. Gowans et al's No. 1 Effring, SE NE Sec. 13-1n-14e. S.D. 104 ft.

### COVINGTON COUNTY

Eastman Gardner Interest's (was Modisette Drlg. Co.) No. 1 Eastman-Gardner Lbr. Co., No. 1 Minerals fee, NE NW Sec. 29-3n-8w ..... Begn drlg. Dec. 24; cmtd. 13-in. 311 ft; drlg. shale 400 ft.

### HINDS COUNTY

Cleve Love's No. 2 Security Realty Co., 1,855 ft. N, 782 ft. E, SW cor. Sec. 36-6-1e ..... T.D. 2,447 ft; set 6-in.; S.D. account of high wtr.
Love & Lancaster's No. 1 Elton Plantation, C SE Sec. 17-4n-1e ..... S.D. Eutow (Blossom) 5,050 ft.
National Gas Co. of Miss.' No. 1 M. C. Halder, 160 ft. E, 660 ft. N, SW cor. Sec. 16-6n-1e ..... S.D. for csg. 810 ft.

### JASPER COUNTY

B. B. Jones' No. 1 Bank of Philadelphia, 660 ft. N and W, SE cor. Sec. 25-3n-12e ..... Top chalk 3,838 ft; drlg. 3,950 ft.

### JACKSON COUNTY

Gulf Ref. Co. of La.'s No. 1 Danciger, 2,440 ft. S, 1,120 ft. W, NE cor. Sec. 27-4s-8w ..... Began Dec. 6; core drlg.

### LAMAR COUNTY

Chas. W. Gorr et al's No. 1 Jordan, NW cor. SW Sec. 1-2n-15w ..... Derrick.
Stauffer & Kouri's No. 1 Bond, SE NE Sec. 18-2n-14w ... D.S. stuck 3,025 ft.

### MONROE COUNTY

P. J. McAlpine's No. 1 Rye, Sec. 22-15s-17w ..... S.D. in lime 2,335 ft; high wtr.

### NEWTON COUNTY

Bob Dalton's No. 1 Majure, 400 ft. N, 300 ft. E, SW cor. SE Sec. 25-6n-11e ..... S.D. gumbo 2,257 ft.

### RANKIN COUNTY

Home Oil Prod. Corp.'s No. 1 So. Jackson Land Co., 35 ft. S, 130 ft. W, NE cor. NW SW Sec. 23-5n-1e ..... S.W. and abd 2,500 ft.
Love Pet. Co.'s No. 2 Int. Lbr. Co., 450 ft. S and E, NW cor. Sec. 28-6n-2e ..... Arranging to deepen 2,665 ft.
Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e.. Derrick.

### SCOTT COUNTY

M. U. Culley et al's No. 1 Owens, Sec. 2-8-9 ..... S.D. 750 ft.

### WEBSTER COUNTY

P. J. McAlpine's No. 1 Hensley, Sec. 15-21-11 ..... Cored Tuscaloosa 1,800 ft; S.D.

### WILKINSON COUNTY

Foster Creek Oil Co.'s No. 1 Foster Creek Lbr. Co., Sec. 12-2n-2w ..... Began drlg. Dec. 26; cmtd. 12-in 200 ft; drlg. 400 ft.

# Wildcat Operations in Alabama

### BALDWIN COUNTY
(Cable tools)

| Company, well, farm name, section and block— | Remarks: |
|---|---|
| H. H. Givens' No. 1 Ashman, Sec. 10-6-5e | Drlg. 500 ft. |

### CULLMAN COUNTY

C. V. Corey's No. 1 King, NE cor. NE NW Sec. 35-8-4w.. S.D. 710 ft.

### LAMAR COUNTY

De Soto O. & G. Co.'s No. 1 Gardner, NW NW Sec. 22-15s-16w ..... S.D.; shale 3,300 ft.

### WASHINGTON COUNTY

South Ala. O. & G. Co.'s No. 1 Wilson, Sec. 26-1n-1w ..... Drlg. chalk 2,850 ft.

## Gulf Coast Fields and Wildcats

(Continued from Page 53)

Texas Gulf Prod. Co.'s No. 12-H Kirby, Henry Griffith League, 429 ft. W of No. 8-H and 65 ft. N of S line.. Drlg. salt 1,920 ft.
Texas Gulf Prod. Co.'s No. 2 O. K. Winfrey, W. D. Smith Sur., 295 ft. N of SW cor. of A. E. Barber lease, 100 ft. W of E line of Winfrey lease ..... Salt 6,208-53 ft; D.S. stuck 4,700 ft; sidetracked and drlg. rock 3,656 ft.
Yount Lee Oil Co.'s No. 4-A Zadie Fisher, Wm. Bloodgood Sur., 301 ft. from W line, 96 ft. from S line of tract ..... Drlg. hard sand 6,494 ft.

### BLUE RIDGE—FORT BEND COUNTY

San Jacinto Oil Co.'s No. 1 Blakely, 250 ft. from W line, 50 ft. from N line of Blk. 9, Sec. D, E. Drek Sur. ..... Comp. flowing 700 bbls.; ⅝-in. choke; 4,515 ft.

### RABBS RIDGE—FORT BEND COUNTY

Gulf Prod. Co.'s No. 3 Gubbels, Samuel Kennedy Sur., 1,000 ft. N of No. 1 and 300 ft. E of W line of 100-ac. tract ..... Sand and shale S.O.; cmtd. csg.
Gulf Prod. Co.'s No. 1-A Gubbels, Samuel Kennedy Sur., 506 ft. N, 426 ft. E of SW cor. of 208-ac. tract..... Rig.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 10-A F. I. Booth, Samuel Kennedy Sur., 2,779 ft. along N line of lease from SE cor. of J. Gubbels' 100-ac. lease and 485 ft. S at right angles ..... Drlg. sandy shale 5,022 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 6 George. J. Rabb Sur. ..... Drlg. shale 4,951 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 4-A George, J. Rabb Sur. ..... Derrick.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 11-A Lockwood & Sharp, J. Rabb Sur. ..... Location.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 12-A Lockwood & Sharp, J. Rabb Sur., 833 ft. E of No. 9.. Comp. 55 bbls. per hr.; ⅝-in. choke; 775 lbs.; T.D. 5,300 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 13-A Lockwood & Sharp, J. Rabb Sur., 4,174 ft. E, 522 ft. S of NW cor. of lease ..... Spudded.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 9-B Lockwood & Sharp, J. Rabb Sur., 850 ft. E of No. 7 .... T.D. 5,299 ft; comp. 50 bbls. per hr.; ½-in. choke.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 11-B Lockwood & Sharp, J. Rabb Sur., 4,554 ft. from W line, 526 ft. from S line of "B" lease No. 3 ..... Spudded.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 12-B Lockwood & Sharp, J. Rabb Sur., 1,729 ft. from E line, 1,129 ft. from S line of "B" lease ..... Derrick.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 6 Meyers, Samuel Kennedy Sur. ..... Derrick.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 5 T. R. Booth, Samuel Kennedy Sur. ..... Drlg. sandy shale 5,006 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 1 R. A. and O. H. Wolters, Robt. Peebles Sur., 325 ft. S and 500 ft. W of NE cor. of 1,000-ac. tract ..... Derrick.
Humble O. & R. Co.'s No. 3 Gubbels, Samuel Kennedy Sur., 500 ft. N, 1,350 ft. W of SE cor. 190-ac. lease.. Shale 5,286 ft; cmtd. csg.
Humble O. & R. Co.'s No. 4 Gubbels, Samuel Kennedy Sur., 1,400 ft. N, 2,460 ft. W of SE cor. of 100-ac. lease ..... Derrick.
Humble O. & R. Co.'s No. 5 Gubbels, Samuel Kennedy Sur., 1,460 ft. N, 1,476 ft. W of SE cor. of 100-ac. tract ..... Location.
The Texas Co.'s No. 4 Wolters, Samuel Kennedy Sur., 1,850 ft. N, 300 ft. W of SE cor. of lease ..... Drlg. shale and lime 4,148 ft.

### SUGARLAND—FORT BEND COUNTY

Koimm Prod. Co.'s No. 1 Peterson, Wm. Littel Sur., 100 ft. SE, 100 ft. SW of NE cor. of tract ..... Tried to make D.S. test 3,748 ft.

### HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 3 Broussard, M. Dunman Sur., 150 ft. E of center of W line of tract ..... Drlg. shale and sand 4,250 ft.
Yount Lee Oil Co.'s No. 30 Cade (W.O.), N. Fitzsimmons Sur. ..... T.D. 5,787 ft; sidetracked stuck drill pipe; drilled to sand 5,449 ft; comp. 375 bbls. P.L. oil; ¾-in. choke.
Yount Lee Oil Co.'s No. 33 Cade, N. Fitzsimmons Sur., 3,505 ft. from N line, 1,615 ft. from E line ..... Drlg. shale and lime 3,960 ft.
Yount Lee Oil Co.'s No. 34 Cade, N. Fitzsimmons Sur., 856 ft. S of No. 33 ..... Derrick.
Yount Lee Oil Co.'s No. 1 Mathais fee, 150 ft. from S line, 192 ft. from E line of 23.44-ac. tract in Sarah Reeves Subd., Martin Dunman Sur. ..... Drlg. shale 4,625 ft.
Yount Lee Oil Co.'s No. 14 Smith, Martin Duman Sur., 900 ft. W of No. 12 ..... Drlg. hard sand 1,725 ft.

### SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 92 Jorditt, C. F. Jorditt Sur., 200 ft. S of No. 90 ..... Set 12 ft. of 6⅝-in. screen 1,462 ft; bailed S.W.; abd.

### SOUR LAKE—HARDIN COUNTY

W. E. McKinney's No. 1 Maco Stewart, S. Jackson Sur., center of 5-ac. tract out of Maco Stewart 50 acres ..... Drlg. 2,175 ft.
M. M. Miller's No. 1 Libbie Oil Co., Stephen Jackson Sur., 1,380 ft. NW of Houston Prod. Co.'s No. 1 Merchant ..... Derrick.

### ARIOLA—HARDIN COUNTY

Houston Oil Co.'s No. 1-Y Ariola fee, 5,610 ft. from W line, 5,610 ft. from N line of Ariola Sur. ..... T.D. 5,205 ft; sidetracked 1,282 ft; and drlg. shale and lime 4,795 ft.
Houston Oil Co.'s No. 1-Z Ariola fee, 3,900 ft. from W line, 5,610 ft. from N line of Ariola Sur. ..... Drlg. hard sand and shale 5,963 ft.
Republic Prod. Co.'s No. 3 Ariola fee, Ariola Sur., 660 ft. due S of Gulf's No. 1-A Kirby ..... Location.

### HUMBLE—HARRIS COUNTY

J. D. Clay's No. 5 Bender, R. Dunman Sur., 525 ft. from S line, 203 ft. from E line of 100-ac. tract ..... Comp. pumping 100 bbls. P.L. oil 1,146 ft.
Sun Oil Co.'s No. 66 River, Robert Dunman Sur., 1,722 ft. from S line, 284 ft. from E line of lease ..... Derrick.
Sun Oil Co.'s No. 67 River, Robert Dunman Sur., 1,895 ft. from S line, 374 ft. from E line of lease ..... Comp. 100 bbls. daily 1,367 ft.

### MYKAWA—HARRIS COUNTY

Crown-Framer Oil Co.'s No. 4 Minntex, 165 ft. S, 120 ft. W of NE cor. of Blk. 193, Wm. Lovett Sur. ..... Location.
Crown-Framer Oil Co.'s No. 2-A Siadona, Wm. Lovett Sur., 500 ft. E, 100 ft. N of SW cor. of lease ..... Rig.
Leon Wilkerson's No. 1 Irwin, Wm. Lovett Sur., 300 ft. N of Humble's No. 1 Irwin ..... Derrick.

### PIERCE JUNCTION—HARRIS COUNTY

Gulf Prod. Co.'s No. 36 Taylor, James Hamilton Sur. No. 52, 650 ft. N of S line of survey, 100 ft. W of Rock Drlg. Co.'s No. 2 Hooks ..... Drlg. shale 2,945 ft.
Rio Bravo Oil Co.'s No. 15-A Settegast (D.D.), Jas. Kopman Sur. ..... Set 19½ ft. of 4¾-in. screen; comp. flowing 80 bbls. per hr.; 100 lbs., ⅝-in. choke; pressure and flow increasing.
Rio Bravo Oil Co.'s No. 26-A Settegast, J. Kopman Sur., 1,210 ft. from N line, 750 ft. from E line of "A" lease ..... Drlg. sticky shale 5,475 ft.

### FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 6 Burrell, Wm. Smith Sur., 1,610 ft. N, 300 ft. E of SW cor. of 232-ac. tract ..... T.D. 4,954 ft; blew out and caught fire; well killed and standing; showed gas, S.W. and some oil.
Lowrie & Young's No. 1 Junker, Wm. Smith Sur., 125 ft. N, 100 ft. E of Gulf Prod. Co.'s No. 1 Junker in 260-ac. tract ..... Drlg. sandy lime 2,530 ft.

### ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 2 Moores Bluff, (D.D.), M. Duncan Sur. ..... Pulling screen to deepen 2,350 ft.
Cranfill-Reynolds Co.'s No. 10 Moore's Bluff, M. Duncan Sur., 1,500 ft. from E line, 2,100 ft. from N line of 632-ac. tract ..... Cmtd. 9⅝-in. csg. 6,164 ft.

### HULL—LIBERTY COUNTY

Carpenter & Parr's No. 2 Antilley, Jesse Devore Sur., 821 ft. W, 250 ft. S of NE cor. of 20-ac. lease ..... Derrick.
Eclipse Oil Co.'s No. 1 Gordon, Jesse Devore Sur., 50 ft. out of NE cor. of Empire 13-ac. lease ..... Rigging.
Empire G. & F. Co.'s No. 34 Barngrover, Jesse Devore Sur., 75 ft. out of SW cor. of lease ..... T.D. 5,219 ft; plugged to 4,761 ft.
Hannah Oil Co.'s No. 1 Hannah, Jesse Devore Sur., 100 ft. W of The Texas Co.'s No. 1 Hannah..... Standing 3,665 ft.
Lynd & Rowe's No. 1 Noble & Lynd, Jesse Devore Sur., 137 ft. out of SE cor. of 5-ac. tract ..... Standing 3,564 ft.
Porter & Baggett's No. 1 Baggett, Jesse Devore Sur., 80 ft. from W line, 50 ft. from S line of 171-ac. tract ..... No report.
Republic Prod. Co.'s No. 35-A Dolbear, Jesse Devore Sur., 75 ft. S of No. 35 ..... Rig up to pump 1,400 ft.
Republic Prod. Co.'s No. 148 Dolbear, Jesse Devore Sur., 250 ft. W of No. 139 ..... Drlg. 2,400 ft.
D. L. Thibodeaux' No. 2 Taylor, Jesse Devore Sur., 100 ft. N of No. 1 ..... Derrick.
Unique Oil Co.'s No. 1 Knox-Nelson-Layton, Jesse Devore Sur., 30 ft. from N line and midway E and W of ½-ac. tract ..... Rig.
Wilson Oil Co.'s (Aberoil Oil Co.) No. 1 Barrow, Jesse Devore Sur., 64 ft. from N line, 700 ft. from E line of 10-ac. tract ..... S.D. 4,752 ft.

LIBERTY—LIBERTY COUNTY

J. E. Teddlie's No. 1 Baldwin, Wm. White Sur., 100 ft. W of Navarro Oil Co.'s No. 4 ..... Derrick.

CONROE—MONTGOMERY COUNTY

Alpha Oil Co.'s No. 2 Keystone Mills, Lemuel Smith Sur., 456 ft. from S and E lines of 200-ac. tract.... Derrick.

Alpha Oil Co.'s No. 1-A Krohn, S. H. Bryan Sur., 466 ft. from S line in center E and W of 100-ac. tract .... Drlg. gumbo 2,926 ft.

Alpha Oil Co.'s No. 1-C South Tex. Dev. Co., T.&N.O. Sur. No. 13, 450 ft. from N line, 350 ft. from W line of 80 acres ..... Spudded.

Amerada Pet. Corp.'s No. 1 South Tex. Dev. Co., C. A. West Sur., 350 ft. from N line, 466 ft. from W line of lease ..... Sand 5,038 ft.; cmtd. csg.

Amerada Pet. Corp.'s No. 2 South Tex. Dev. Co., 466 ft. from S line, 410 ft. from W line of C. A. West Sur. ..... Drlg. shale 960 ft.

Amerada Pet. Corp.'s No. 3 South Tex. Dev. Co., 900 ft. from W line, 1,005 ft. from S line of C. A. West Sur. ..... Location.

Bishop Oil Corp.'s No. 1 Rhoden, 466 ft. from E line in center N and S of 25.8-ac. tract ..... Derrick.

Bishop Oil Corp.'s No. 1 Rhoden, 466 ft. from W line in center N and S of 25.8-ac. tract ..... Location.

Bishop Oil Co.'s No. 1 Smith & Ratcliff, W. F. Rhodes Sur., 466 ft. out of SE cor. of lease ..... Derrick.

H. M. Crighton's No. 1-A South Tex. Dev. Co., center of 16-ac. lease in T.&N.O. Sur. No. 5 ..... Location.

Danciger O. & G. Co.'s No. 1 Alexander, John McHorse Sur., center of 18-ac. tract ..... Comp. 61 bbls. per hr.; ½-in. choke; 5,110 ft.

Faryin Oil Co.'s No. 1 John Rhodes, Wilson Strickland Sur., center of 14.9-ac. tract ..... Rig.

Faryin Oil Co.'s No. 1 W. F. Stewart, Ransom House Sur., 466 ft. from N and W lines of lease ..... Coring sandy shale 5,097 ft.

Faryin Oil Co.'s No. 1 R. Thompson, center of 10-ac. lease (Lots 55 and 58), C. A. West Sur. ..... Location.

Feltex Oil Co.'s No. 1 Keystone Mills, Lemuel Smith Sur., 466 ft. from E line of 60-ac. lease in center N and S ..... Drlg. shale 2,734 ft.

Feltex Oil Co.'s No. 1 Kirby Bertrand, 466 ft. from N line of G. W. Wagers Sur. in center of lease east and west ..... Derrick.

Gem Oil Co.'s No. 1 Ezra Moorehead, John McHorse Sur., center of 6-ac. tract ..... Shale 1,005 ft; cmtd. csg.

Gulf Coast Drlg. & Prod. Co.'s No. 2 Keystone Mills, Ashby James Sur., 1,336 ft E of NW cor., 467 ft. S of N line ..... Set screen 5,123 ft.

Gulf Coast Drlg. & Prod. Co.'s No. 3 Keystone Mills, A. S. James Sur., 2,232 ft. from E line, 466 ft. from N line of Sur. ..... Drlg. shale 3,062 ft.

Harrison & Abercrombie's No. 3 Alexander, John McHorse Sur., 964 ft. E of No. 1 or 1,535 ft. from W line and 391 ft. from N line of tract ..... Sand 5,094 ft; cmtd. csg.

Harrison & Abercrombie's No. 4 Alexander, John McHorse Sur., 356 ft. from E line, 425 ft. from S line of lease ..... Location.

Harrison & Abercrombie's No. 5 Alexander, John McHorse Sur., 466 ft. E of E line of Ransom House Sur., and 425 ft. from S line of lease ..... S.D. 2,250 ft. because of Standard No. 1 Madeley fire.

Harrison & Abercrombie's No. 6 Alexander, John McHorse Sur., 466 ft. from W line, 360 ft. from S line of lease ..... Location.

Harrison & Abercrombie's No. 1 Mrs. Lola McShan, T. M. Wiggins Sur., 466 ft. from N line in center E and W of lease ..... Drlg. shale 5,050 ft.

Hooper-Rutherford Oil Co.'s No. 5 Hooper, L&G.N. Sur., Abst. 649, 415 ft. from S line, 570 ft. from W line of lease ..... Derrick.

Hooper-Rutherford Oil Co.'s No. 4 Hooper, L&G.N. Sur. No. 649, center of tract E and W and due E offset Houston-Tidal's No. 1 Hooper ..... Derrick.

Houston Oil Co. and Tidal Oil Co.'s No. 3 Cartwright, John Davis Sur., 932 ft. W of No. 2 and 467 ft. from S line ..... Sand 5,181 ft; cmtd. 7-in. csg. 5,-123 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 4 Cartwright, John Davis Sur., 332 ft. from E line, 799 ft. from N line of lease ..... Location.

Houston Oil Co.-Tide Water Oil Co.'s No. 5 Cartwright, John Davis Sur., 933 ft. E of No. 1 and 466 ft. from S line of lease ..... Derrick.

Houston Oil Co.-Tide Water Oil Co.'s No. 6 Cartwright, John Davis Sur., 932 ft. E of No. 5 and 466 ft. from S line of lease ..... Location.

Houston Oil Co. and Tide Water Oil Co.'s No. 2 Hamman, C. B. Stewart Sur., 467 ft. out of NE cor. of tract ..... Comp. 230 bbls. first 10 hrs; 2/32-in. choke; 5,113 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 2 Joe Hamman, C. B. Stewart Sur., 467 ft. from E line, 1,511 ft. from S line of lease ..... Drlg. shale 902 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 4 Hamman, C. B. Stewart Sur. ..... Location.

Houston Oil Co.-Tide Water Oil Co.'s No. 5 Hamman, C. B. Stewart Sur., 466 ft. from S and E line of lease ..... Location.

Houston Oil Co.-Tide Water Oil Co.'s No. 2 W. N. Hooper, Jr., L&G.N. Sur. No. 11, 466 ft. from S line of lease in center of tract E and W ..... Drlg. sticky shale 1,892 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 3 W. N. Hooper, Jr., L&G.N. Sur. No. 11, 667 ft. S of No. 1 in center of tract E and W ..... Spudded.

Humble O. & R. Co.'s No. 8-A Cartwright, J. Davis Sur., 932 ft. NE of No. 4 ..... Location.

Humble O. & R. Co.'s No. 9-A Cartwright, J. Davis Sur., 1,485 ft. from E line, 466 ft. from S line of lease ..... Drlg. sandy shale 4,442 ft.

Humble O. & R. Co.'s No. 4 Dobbins, Ransom House Sur., 1,064 ft. E of No. 3 and 466 ft. N of S line..... Sand 5,100 ft.

Humble O. & R. Co.'s No. 5 Dobbins, Ransom House Sur., 1,050 ft. E of No. 4 and 350 ft. N of S line of lease ..... Comp. 95 bbls. per hr.; ½-in. choke, 5,152 ft.

Humble O. & R. Co.'s No. 6 Dobbins, Ransom House Sur., 466 ft. from E and S lines of lease ..... Drlg. shale 3,554 ft.

Humble O. & R. Co.'s No. 1-C Cartwright, John Davis Sur., 550 ft. from S line, 350 ft. from W line of lease ..... Drlg. shale 3,324 ft.

Humble O. & R. Co.'s No. 2-C Cartwright, John Davis Sur., 550 ft. from S line, 300 ft. from E line of "C" lease ..... Location.

Humble O. & R. Co.'s No. 3-C Cartwright, J. Davis Sur., 1,375 ft. from E line, 466 ft. from S line of lease ..... Location.

Humble O. & R. Co.'s No. 1-D Cartwright, John Davis Sur., center of 20-ac. "D" lease ..... Drlg. shale 3,736 ft.

Humble O. & R. Co.'s No. 1 Emory, W.C.R.R. Sur., Sec. 13, 466 ft. from S line, 350 ft. from W line ..... Comp. 103 bbls. per hr.; ½-in. choke, 5,152 ft.

Humble O. & R. Co.'s No. 2 Emory, W.C.R.R. Sur., 2,-100 ft. from S line, 350 ft. from E line ..... Derrick.

Humble O. & R. Co.'s No. 1-B Hirsch, D. McIntyre Sur., 350 ft. from S line, 450 ft. from W line of "B" lease ..... Spudded.

Humble O. & R. Co.'s No. 2-B Hirsch, D. McIntyre Sur., 450 ft. out of NW cor. "B" lease ..... Drlg. shale 2,953 ft.

Humble O. & R. Co.'s No. 7 Madeley, Ransom House Sur., 310 ft. S of N line of survey and direct S offset Vicery & Griffith's No. 7 Madeley ..... Drlg. shale 2,893 ft.

Humble O. & R. Co.'s No. 6 Madeley, Ransom House Sur. ..... Drlg. sticky shale 5,169 ft.

Humble O. & R. Co.'s No. 10 Madeley, Ransom House Sur., 1,718 ft. SE of No. 6 ..... Location.

Humble O. & R. Co.'s No. 12 Madeley, Ransom House Sur., 800 ft. from N line and 1,310 ft. from W line of tract ..... Location.

Humble O & R. Co.'s No. 13 Madeley, Ransom House Sur., 1,100 ft. SE of No. 6 ..... Location.

Humble O. & R. Co.'s No. 14 Madeley, Ransom House Sur., 400 ft. S of N line, south offset Houston-Tide Water No. 2 Hooper ..... Location.

Humble O. & R. Co.'s No. 28 Madeley, Ransom House Sur., 466 ft. S of N line, west offset Standard No. 1 Madeley ..... Shale 490 ft.

Humble O. & R. Co.'s No. 1 W. P. McComb, L. Smith Sur., 500 ft. from W line, 353 ft. from N line of 150-ac. lease ..... Location.

Humble O. & R. Co.'s No. 3 McDonald, John Davis Sur., 466 ft. N of S line of lease and direct N offset Hamilton et al's No. 2 Moorehead ..... Drlg. sticky shale 3,584 ft.

Humble O. & R. Co.'s No. 1 Moore, Lemuel Smith Sur., approx. 1,325 ft. southwesterly along SE line from SE cor. and 466 ft. northwesterly at right angles.. Comp. 103 bbls. per hr.; 5,135 ft.

Humble O. & R. Co.'s No. 2 Moore, Lemuel Smith Sur., 1,393 ft. northerly and 466 ft. easterly at right angles from SW cor. ..... Comp. 87 bbls. per hr., 5,135 ft.

Humble O. & R. Co.'s No. 3 H. N. Moore, Lemuel Smith Sur., 466 ft. from E line, 1,065 ft. from S line of survey ..... Drlg. sandy lime 2,712 ft.

Humble O. & R. Co.'s No. 4 Moore, Lemuel Smith Sur., 900 ft. N of No. 3 ..... Drlg. shale 953 ft.

Humble O. & R. Co.'s No. 5 Moore, Lemuel Smith Sur., 933 ft. S of No. 3 ..... Drlg. sticky shale 954 ft.

Humble O. & R. Co.'s No. 6 Moore, Lemuel Smith Sur., 5,900 ft. from W line, 466 ft. from S line of lease. Drlg. shale and lime 3,612 ft.

Humble O. & R. Co.'s No. 7 Moore, Lemuel Smith Sur., 933 ft. E of No. 6 ..... Rig.

Humble O. & R. Co.'s No. 8 Moore, Lemuel Smith Sur., 700 ft. W of No. 1 ..... Drlg. shale 835 ft.

Humble O. & R. Co.'s No. 12 Moore, Lemuel Smith Sur., 1,700 ft. from S line, 1,250 ft. from W line of lease. Drlg. gumbo 1,240 ft.

Humble O. & R. Co.'s No. 14 Moore, Lemuel Smith Sur., 466 ft. from W line, 330 ft. from S line of tract... Drlg. shale 940 ft.

Humble O. & R. Co.'s No. 28 South Tex. Dev. Co., 1,-450 ft. from S line, 900 ft. from W line of T. C. Howell Sur. ..... Location.

Humble O. & R. Co.'s No. 29 South Tex. Dev. Co., 1,-900 ft. from S line, 1,300 ft. from E line of T. C. Howell Sur. ..... Location.

Humble O. & R. Co.'s No. 31 South Tex. Dev. Co., 350 ft. N of S line Theo. Slade Sur., N offset Tidal Oil Co.'s No. 4 Lewis ..... Comp. flowing 72 bbls. per hr.; ½-in. choke, 5,177 ft.

Humble O. & R. Co.'s No. 32 South Tex. Dev. Co., 1,-300 ft. from S line, 4,800 ft. from E line of Theo. Slade Sur. ..... Location.

Humble O. & R. Co.'s No. 33 South Tex. Dev. Co., 1,-300 ft. from S line, 4,000 ft. from E line of Theo. Slade Sur. ..... Location.

Humble O. & R. Co.'s No. 34 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. NE of No. 33 ..... Location.

Humble O. & R. Co.'s No. 35 South Tex. Dev. Co., Theo. Slade Sur., 1,095 ft. NE of No. 34 ..... Location.

Humble O. & R. Co.'s No. 36 South Tex. Dev. Co., Theo. Slade Sur., 1,010 ft. NE of No. 35 ..... Location.

Humble O. & R. Co.'s No. 37 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. NE of No. 36 ..... Location.

Humble O. & R. Co.'s No. 38 South Tex. Dev. Co., Theo. Slade Sur., 467 ft. N of S line of survey, north offset Houston-Tide Water No. 2 Hamman ..... Drlg. broken sand 1,953 ft.

Humble O. & R. Co.'s No. 39 South Tex. Dev. Co., Theo. Slade Sur., north offset No. 1 Sullivan State ..... Drlg. shale and lime 1,026 ft.

Humble O. & R. Co.'s No. 40 South Tex. Dev. Co., Theo. Slade Sur., 467 ft. N of S line, north offset Tide Water No. 5 Lewis ..... Drlg. shale 980 ft.

Humble O. & R. Co.'s No. 41 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. S of No. 24 ..... Location.

Humble O. & R. Co.'s No. 2-B South Tex. Dev. Co., C. T. Darby Sur., due W offset No. 2 Emory ..... Shale 5,095 ft.

Humble O. & R. Co.'s No. 1 Sullivan State Land, center of State land tract and due S offset Humble's No. 39 South Tex. Dev. Co. ..... Drlg. shale and lime 4,113 ft.

Humble O. & R. Co.'s No. 1 Mrs. L. Wiggins (23 acres), L. Smith Sur., 466 ft. from N and W lines of lease. Drlg. shale 1,810 ft.

Humble O. & R. Co.'s No. 1 Williams, Lemuel Smith Sur., center of 46-ac. tract ..... Drlg. shale 4,846 ft.

M. J. Munn's No. 1 South Tex. Dev. Co., 150 ft. from E line, 140 ft. from S line of Lot 114, Clark Beach Sur. ..... Shale 1,295 ft; cmtd. 10-in. csg.

Navarro Oil Co.'s No. 1 Perry heirs, C. M. Wiggins Sur., 466 ft. from W line of lease in center N and S. Cmtd. surface csg. 1,200 ft.

Neversuch Oil Co.'s No. 1 South Tex. Dev. Co., T.&N.O. Sur. No. 5, 466 ft. from S line in center E and W of 90 acres ..... T.D. 5,115 ft; surveying hole.

North Star Oil Co.'s No. 1 Crestwood, T.&N.O. Sur. 15, 466 ft. from S and W line of 77-ac. tract ..... Location.

Showers & Moncrief's No. 1 Dunn, Wilson Strickland Sur., 466 ft. from N line, 350 ft. from E line ..... Drlg. sticky shale 5,017 ft.

Showers & Moncrief's No. 2 Dunn, Wilson Strickland Sur., 900 ft. S of No. 1 ..... Location.

Showers & Moncrief's No. 3 Dunn, Wilson Strickland Sur., 900 ft. S of No. 2 ..... Location.

Skelly Oil Co.-Conroe Oil Co.'s No. 1 South Tex. Dev. Co., T.&N.O. Sur. No. 5, 466 ft. from S line of 22.63-ac. lease in center E and W ..... Spudded.

South Gulf Oil Co.'s No. 1 E. M. Rauh, T.&N.O. Sur. 5, 338 ft. from E line of 20-ac. lease in center of N and S ..... Location.

Southland Oil Co.'s No. 2 Cummings, Wilson Strickland Sur., 466 ft. from E line of survey, 924 ft. SE of No. 1 ..... Comp. 113 bbls. per hr.; ¼-in. choke, 5,076 ft.

Southland Oil Co.'s No. 3 Cummings, Wilson Strickland Sur., 930 ft. S of No. 2 ..... Cmtd. csg. 4,970 ft.

Standard Oil Co. of Kansas' No. 1 Madeley, Ransom House Sur., 466 ft. S of N line, 485 ft. W of E of lease ..... T.D. 5,119 ft; blew out, cratered and caught fire.

Standard Oil Co. of Kansas' No. 2 Madeley, Ransom House Sur., 932 ft. S of No. 1 ..... Derrick.

Standard Oil Co. of Kansas' No. 1 Smith & Ratcliffe, lower W. S. Rhodes Sur., 466 ft. from N line, 1,066 ft. from E line ..... Location.

Standard Oil Co. of Kansas' No. 2 Smith & Ratcliffe, 1,065 ft. NW along SW line from SW cor. of lower W. S. Rhodes Sur., 460 ft. northeasterly at right angles ..... Sand 5,126 ft; cmtd. csg.

C. C. Steinberger's No. 1 South Tex. Dev. Co., T.&N.O. Sur., Abst. 568, 1,100 ft. from S line in center E and W of 25-ac. tract ..... Cmtd. surface csg. 1,287 ft.

Steinberger, Brown & Wheeler's No. 1 South Tex. Dev. Co., T.&N.O. Sur. No. 5, center of S 20 acres of 50-ac. lease ..... Cored oil sand 5,079 ft.

Strake Pet., Inc.'s No. 1 Keystone Mills, Lemuel Smith Sur., 1,300 ft. southward along W line of Alpha 200-ac. lease from NW cor. and 466 ft. W at right angles ..... Derrick.

Strake Pet., Inc.'s No. 1 Elizabeth Moody, C. B. Stewart Sur., 1,400 ft. from S line and 467 ft. from E line of 736-ac. tract ..... Location.

Sun Oil Co.'s No. 1 Keystone Mills, 466 ft. from N and E lines of John Bricker Sur. ..... Spudded.
Sun Oil Co.'s No. 1 W. S. Stewart, 466 ft. from S and E lines of J. M. Real Sur. ..... Drlg. sand and boulders 870 ft.
The Texas Co.'s No. 1 H. M. Dudley, C. B. Stewart Sur., 466 ft. S 15 deg. E, 466 ft. S 75 deg. W from NE cor. of lease ..... Drlg. gumbo 2,490 ft.
The Texas Co.'s No. 5 Moody, Ransom House Sur., 1,549 ft. from E line and 466 ft. from N line of lease.... Comp. 126 bbls. per hr.; ¾-in. choke, 5,100 ft.
The Texas Co.'s No. 6 Moody, Ransom House Sur., 466 ft. from E line and 466 ft. from N line of lease..... Drlg. shale and shells 4,585 ft.
The Texas Co.'s No. 7 Moody, Ransom House Sur., 1,366 ft. from N line and 466 ft. from E line of lease.... Drlg. gumbo 1,012 ft.
The Texas Co.'s No. 9 Moody, S 60 deg. W 3,879 ft., N 30 deg. W 254 ft. from SE cor. of Ransom House Sur. ..... Drlg. shale 1,552 ft.
The Texas Co.'s No. 10 Moody, 3,030 ft. from E line, 660 ft. from S line of Ransom House Sur. ..... Location.
The Texas Co.'s No. 11 Moody, Ransom House Sur., S 75 deg. W 466 ft. and S 15 deg. E 235 ft. from SE cor. Wilson Strickland Sur. ..... T.D. 5,004 ft; cmtd. 7-in. csg. 4,-990 ft.
The Texas Co.'s No. 13 Moody, 2,130 ft. from E line, 466 ft. from S line of Ransom House Sur. ..... Location.
The Texas Co.'s No. 14 Moody, 1,330 ft. from E line, 466 ft. from S line of R ansom House Sur. ..... Drlg. shale 430 ft.
The Texas Co.'s No. 16 Moody, 1,383 ft. SW along S line of Wilson Strickland Sur. from SE cor. and 466 ft. S at right angles in Ransom House Sur. .... Location.
The Texas Co.'s No. 2 Rhodes, 979 ft. 15 deg. W, 466 ft. N 75 deg. E of SW cor. of W. S. Rhodes Sur. .... Location.
The Texas Co.'s No. 3 Rhodes, Rhodes Sur., 1,354 ft. N 15 deg. W and 466 ft. N 75 deg. E of SW cor. of survey ..... Rig.
The Texas Co.'s No. 4 Rhodes, 2,786 ft. N 15 deg. W and 478 ft. N 75 deg. E from SW cor. of Rhodes Sur.. Cmtd. 7-in. csg. 4,990 ft.
The Texas Co.'s No. 5 W. S. Rhodes, 466 ft. S of SW cor. of C. T. Darby Sur., and 350 ft. at right angles in W. S. Rhodes Sur. ..... Location.
The Texas Co.'s No. 6 Rhodes, 2,090 ft. W of E line of lease and 466 ft. S of S line of C. A. West Sur. in W. S. Rhodes Sur. ..... Spudded.
The Texas Co.'s No. 7 Rhodes, 1,210 ft. from E line of lease and 330 ft. S of S line of C. A. West Sur. in W. S. Rhodes Sur. ..... Location.
The Texas Co.'s No. 8 Rhodes, 330 ft. S of S line of C. A. West Sur., and 330 ft. W of W line of John Massey Sur. in W. S. Rhodes Sur. ..... Location.
Harvey Thornton's No. 1 John Rhodes, Ransom House Sur., center of 3.29-ac. tract ..... Cmtd. surface csg. 1,297 ft.
Tide Water Oil Co.'s No. 2 Freeman, John Davis Sur., 1,334 ft. from S line, 332 ft. from W line of 36 acres.. Spudded.
Tide Water Oil Co.'s No. 3 Lewis, C. B. Stewart Sur., 1,500 ft. from N line, 466 ft. from E line of lease.. Comp. 40 bbls. per hr.; ½-in. choke, 5,098 ft.
Tide Water Oil Co.'s No. 4 Lewis, C. B. Stewart Sur., 2,350 ft. from W line, 450 ft. from N line of lease.. Comp. 58 bbls. per hr.; ½-in. choke, 5,148 ft.
Tide Water Oil Co.'s No. 5 Lewis, C. B. Stewart Sur., 1,449 ft. from W line, 467 ft. from N line of tract.. Sand 5,152 ft; cmtd. csg.
Tide Water Oil Co.'s No. 6 Lewis, C. B. Stewart Sur., 2,592 ft. from N line, 467 ft. from W line of tract.. Cored sand showing oil 5,077 ft.
Tide Water Oil Co.'s No. 7 Lewis, C. B. Stewart Sur., 3,028 ft. from N line, 467 ft. from E line of tract.. Drlg. shale 4,362 ft.
Tide Water Oil Co.'s No. 8 Lewis, C. B. Stewart Sur., 2,223 ft. from N line, 2,333 ft. from W line of tract.. Drlg. sticky shale 5,025 ft.
Tide Water Oil Co.'s No. 9 Lewis, C. B. Stewart Sur., 1,570 ft. from S line, 466 ft. from W line of tract.. Drlg. sandy shale 1,755 ft.
Tide Water Oil Co.'s No. 10 Lewis, C. B. Stewart Sur., 650 ft. from E line, 466 ft. from N line of survey.. Spudded.
Tide Water Oil Co.'s No. 11 Lewis, C. B. Stewart Sur. .. Rig.
Tide Water Oil Co.'s No. 1 South Tex. Dev. Co., T.&N.O. Sur. No. 5, 380 ft. from E line, 577 ft. from S line of lease ..... Drlg. shale 2,406 ft.
Tide Water Oil Co.'s No. 2 South Tex. Dev. Co., T.&N.O. Sur. No. 5, 380 ft. from E line, 467 ft. from N line of lease ..... Cmtd. surface csg. 1,380 ft.
Tide Water Oil Co.-Republic Prod. Co.'s No. 3 South Tex. Dev. Co., T.&N.O. Sur. 15, 380 ft. from E line, 466 ft. from N line of lease ..... Location.
Violet & Griffith's No. 5 Mrs. Fannie Hooper, M. DeMoss Sur., E offset Humble's No. 1 Pioefflin, C of tract... Comp. 45 bbls. per hr.; ½-in. choke, 5,156 ft.

MARKHAM—MATAGORDA COUNTY

Powers Prod. Co.'s No. 1 Meyers, 100 ft. N, 525 ft. W of SE cor. of Blk. 1, Wm. Hadden Sur. ..... Sand 3,317-36 ft; cmtd. 6⅝-in. csg. 3,310 ft.

PORT NECHES—ORANGE COUNTY

The Texas Co.'s No. 4 Stark, 675 ft. E, 340 ft. N of SW cor. Marshall Beauchamp Sur. ..... Drlg. sand and gravel 320 ft.

CLAY CREEK—WASHINGTON COUNTY

Clay Creek Oil Co.'s No. 2 Bimage, J. P. Perry Sur., 1,600 ft. from S line, 150 ft. from E line of survey.. S.D. 1,354 ft; waiting heavier rig.
Sun Oil Co.'s No. 1 A. Schulte, J. P. Perry Sur., 204 ft. from NE line, 300 ft. from SE line of tract ..... No report.

REFUGIO—REFUGIO COUNTY

Ed Jones' No. 4 Mitchell, Town tract, 900 ft. S of No. 1-B Mitchell ..... Drlg. shale and lime 2,520 ft.

## SOUTH LOUISIANA FIELDS

JENNINGS—ACADIA PARISH

Olympic Oil Co.'s No. 1 Luckett, 1,150 ft. S, 75 ft. W of NE cor. Sec. 42-9s-2w ..... Standing 1,773 ft.
Phillips & Artigue's No. 2 Cruse (W.O.), 85 ft. from E line, 60 ft. from N line of tract in Sec. 47-9s-2w.... Standing 1,862 ft.
Yount Lee Oil Co.'s No. 11 Housierre-Latrielle, 1,010 ft. N, 5,050 ft. S of SW cor. Sec. 47-9s-2w ..... Drlg. shale 7,795 ft.

DARROW—ASCENSION PARISH

Rio Brave Oil Co.'s No. 2 Community, Sec. 31-10s-2e, 1,760 ft. S, 490 ft. W of No. 1 ..... Rig.
Rio Brave Oil Co.'s No. 1 Gumbel, 4,000 ft. W, 250 ft. S of NE cor. of S. Gumbel & Co. tract, Sec. 33-10s-2e.. Drlg. wtr. sand 3,836 ft.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 28 United Land Co., Sec. 15-10s-4e, 200 ft. N and 90 ft. W of No. 3 ..... Location.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Shell Pet. Corp.'s No. 3 Fontenot, Sec. 7-9s-6w, direct E offset Magnolia's No. 2 Waite ..... Drlg. shale 5,315 ft.

LOCKPORT—CALCASIEU PARISH

Lockport Oil Co.'s No. 1 Phoenix ..... D.S. stuck 1,200 ft; standing.
Magnolia Pet. Co.'s No. 10 Bordages, Sec. 8-10s-9w, 1,-001 ft. E, 338 ft. N of SW cor. of lease ..... Drlg. shale and boulders 5,195 ft.
Magnolia Pet. Co.'s No. 6-A Farquahar, 1,020 ft. E, 150 ft. N of center of Sec. 8-10s-9w ..... Sand 6,454-61 ft; set 1 joint of screen.
Magnolia Pet. Co.'s No. 9 Faquahar, 200 ft. N, 150 ft. E of SW cor. NE SE Sec. 8-10s-9w ..... Derrick.
Union Sulphur Co.'s No. 5 Martha Moss, Sec. 8-10s-9w (location to come) ..... Location.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 771 fee (D.D.), 431 ft. S and 340 ft. W of center of Sec. 29-9s-10w ..... T.D. 5,173 ft; sidetracking 5,159 ft.
Union Sulphur Co.'s No. 776 fee, 125 ft. S, 1,490 ft. W of center Sec. 29-9s-10w ..... Drlg. hard shale 4,396 ft.

VINTON—CALCASIEU PARISH

Vinton Pet. Co.'s No. 22 Vincent, 685 ft. N, 620 ft. E of SW cor. Sec. 34-10s-12w, in Lot 116 ..... Spudded.
Wilson-Broach's No. 9 Wilson, Sec. 33-10s-12w, 200 ft. N of No. 8 and 28 ft. E of W line of Strip 7 ..... Set 29 ft. of 3-in. screen 3,542 ft; bailed dry; pulling screen.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 3 Alliance Trust Co., 699 ft. from N line, 1,460 ft. from W line of Sec. 34-11s-1w ..... T.D. 4,717 ft; D.S. stuck.
Pure Oil Co.'s No. 2 Mulvey, Sec. 34-11s-1w, 1,515 ft. from N line, 1,150 ft. from E line of tract ..... Drlg. shale 4,056 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 25 Watkins (D.D.), 112 ft. N and 2,795 ft. W of SE cor. of Sec. 13-12s-10w ..... Sand 2,962 ft.
Wilfred Lahaye's No. 1 Olevia, Sec. 36-12s-10w, in 2-ac. tract ..... Spudded and S.D.
Jim Oil Co.'s No. 11 Irwin, Sec. 13-12s-10w, 500 ft. N, 75 ft. W of No. 6 ..... No report.
Lackawanna Oil Co.'s No. 1 Ellender, 320 ft. S, 150 ft. E of NW cor. SE SE Sec. 31-12s-10w ..... Derrick.
Massert & Cruse's No. 1 J. B. Duhon, 656 ft. S, 325 ft. E of NW cor. Sec. 36-12s-10w ..... Derrick.
The Texas Co.'s No. 10-B State, 1,000 ft. E, 300 ft. N of NE cor. Sec. 13-12s-10w ..... Derrick.
The Texas Co.'s No. 11-B State, 1,000 ft. E, 600 ft. N of NE cor. Sec. 13-12s-10w ..... Location.
Union Sulphur Co.'s No. 2 Gulf Land-Pure lease, 1,958 ft. N, 200 ft. W of SE cor. Sec. 11-12s-10w ..... Drlg. hard sand 8,375 ft.
Yount Lee Oil Co.'s No. 12 School Land, Sec. 15-12s-10w, 200 ft. S of No. 11 ..... Salt 3,316-56 ft.

PORT BARRE—ST. LANDRY PARISH

The Texas Co.'s No. 13 Botney Bay, Sec. 4-6s-5e, 185 ft. W of E line of lease and direct offset Gulf's No. 2 Wilson-Cockran ..... Derrick.
The Texas Co.'s No. 14 Botney Bay, Sec. 4-6s-5e, 274 ft. W of most southerly NE cor. of 562-ac. tract.. Location.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co.'s No. 3 Gay, 520 ft. S, 200 ft. E of center Sec. 52-9s-11e ..... Drlg. 2,220 ft.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 6 Wilbert, Sec. 9-11s-12e, 200 ft. out from No. 5 ..... Salt. 5,490-5,556 ft.

CAMERON MEADOWS—CAMERON PARISH

Magnolia Pet. Co.'s No. 3 Cameron Meadows, 3,620 ft. S, 1,900 ft. W of NE cor. Sec. 21-14s-13w..... Sand showing oil 4,791 ft; cmtd. 9⅝-in. csg. 4,770 ft.

STARKS—CALCASIEU PARISH

Emerson & Stark's No. 2 Industrial, 400 ft. S of No. 1, in SE cor. NE NW Sec. 30-9s-12w..... Standing 4,715 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 11 Yount Lee, Sec. 12-13s-8w, 300 ft. S 66 deg. 42 min. from No. 9 ..... Drlg. sticky shale 4,953 ft.

## TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Bunte, Inc.'s No. 1 Dittert, M. N, Allen Sur., 200 ft. SW, 300 ft. NW from W cor. of Henry Vornkahl 16 acres ..... Drlg. shale and gravel 2,556 ft.
Great Southern Oil Co.'s No. 1 Schevojsa, 329 ft. N, 78 deg. E of N cor. B. Dottery Sur. ..... Drlg. shale and boulders 3,125 ft.
Sun Oil Co.'s No. 1 R. W. Theuman, Juan DeLeon Sur., 900 ft. S of N line, 924 ft. E of W line of 125-ac. lease ..... Drlg. sandy shale and lime 4,-358 ft.
Tibbett et al's No. 1 Heidman, 4,320 ft. SW along NW line from most northerly corner of A. Larrison Sur., thence 405 ft. NW at right angles ..... Derrick.

BRAZORIA COUNTY

Danciger O. & R. Co.'s No. 2 Hunt, Pledger, 6,550 ft. from E line, 5,550 ft. from S line of W. Carson Sur.. Location.
John Deering's No. 1 C. W. Chapman, 924 ft. from S line, 104 ft. from E line of Lot 2, Andrew Robinson Sur. ..... Sand rock 5,788 ft; standing.
Tri-fin Oil Co.'s No. 1 Moers, 1,635 ft. SW of Chocolate Bayou, 493 ft. SE of NW line of F. Moore Sur. ..... Drlg. sticky shale 3,102 ft.

BURLESON COUNTY

Ball & Knob's No. 1 Polansky, M. B. Lawrence Sur., 359 ft. from E line, 469 ft. from N line of 158-ac. tract ..... No report.
Sampson O. & G. Co.'s No. 3 Duckworth & Gilley, P. Singleton Sur., 50 ft. SE of No. 1 ..... No report.
J. E. Stubblefield et al's No. 1 Mitchell, A. T. Woolridge Sur., 81 ft. SW, 4,340 ft. SE of S cor. of Joseph Henson Sur. ..... Gumbo 600 ft; standing.

CHAMBERS COUNTY

Weaver-Ray's No. 1 Fisher, John Tjams Sur., 210 ft. S of Rucker et al's No. 1 Fisher ..... S.D. 2,400 ft.
Yount Lee Oil Co.'s No. 1 Plummer, H.&T.C. Sur. No. 28, 2,340 ft. from N line, 2,640 ft. from W line of section ..... Drlg. shale 3,010 ft.

COLORADO COUNTY

Danciger O. & G. Co. and L. E. Hults' No. 1 C. L. Raver, B.B.B.&C. Sur., Sec. 1, 990 ft. out of SW cor. of 477-ac. tract ..... Derrick.
Humble O. & R. Co.'s No. 1 John McShane, L.&G.N. Sur., Sec. 42, 466 ft. out of NE cor of tract ..... Rig.
Pilot Oil Co.'s No. 1 Tate, Cooke & DeWeese Sur., 150 ft. NE, 50 ft. NW of S cor. of survey ..... S.D. 1,540 ft.

FORT BEND COUNTY

John Deering and Benedum & Trees' No. 1 Westen Field, 900 ft. E of W line, 310 ft. N of S line of M. Escalera Sur. ..... Drlg. gumbo 1,509 ft.
Lowrie & Young's No. 1 Jackson Brown, Pilant Lake, Wm. Barrett & Abner Harris Sur., 152 ft. E, 158 ft. N out of SE cor. Humble 182-ac. Brown lease in D. Hale 548-ac. tract ..... Shale 5,025 ft; S.D.
Lynch et al's No. 1 Kneitz, 690 ft. from NW line, 350 ft. from SW line of Sec. 43, H.&T.C. Sur. ..... S.D. for repairs 672 ft.
Naylor & DeCosta's No. 1 Naylor, 6,350 ft. N, 55 deg. E from SW cor. 653-ac. tract in Christman Sur. .... T.D. 7,014 ft; standing.

GALVESTON COUNTY

Humble O. & R. Co.'s No. 1 Rosenkranz, Green's Bayou, center N½ of Lot 10, Sarah White Sur. ..... T.D. 7,119 ft; milling out of csg. 6,636 ft.

GRIMES COUNTY

Barnett et al's No. 1 Dodd, Timothy Jones Sur. ..... Standing 2,689 ft.
W. J. Brightwell's No. 1 Combs, Samuel Beauman Sur., 850 ft. from S line, 622 ft. E of extreme W line of 276-ac. tract ..... Standing 5,250 ft.
Terrell & Clay's No. 1 D. M. Howard, T. Jones Sur., 450 ft. from E line, 750 ft. from S line of lease ..... Location.

HARDIN COUNTY

Joe E. Proctor's No. 1 Russell & Teague, 3,650 ft. E, 2,-777 ft. N of NW cor. of Wm. W. Young Sur. ..... T.D. 2,685 ft; hole heaved in.
Robichaux et al's No. 1 Kirby Lbr. Co., 4,167 ft. W, 2,500 ft. N of SE cor. of Ben Hawkins Sur. ..... S.D. 3,900 ft.

HARRIS COUNTY

Mills Bennett Prod. Co.'s No. 1 G. H. Klepple, March Sur., NW cor. of survey and tract ..... Rigging up.
T. V. Buckholve & Sons' No. 1 Miller, Arthur McCormick Sur. ..... S.D. 1,310 ft.
Cherry & Pritchard's No. 1 Dr. Griffith, S. Bell Sur., 582 ft. from E line, 60 ft. from N line of 250-ac. tract ..... T.D. 756 ft; cmtd. 10-in. 650 ft.
John Deering et al's No. 2 Warren, T. Snell Sur., 100 ft. SW of No. 1 ..... Drlg. gumbo 1,628 ft.
Smitherman, Neilson & Noble's No. 1 Cameron, Wm. Jones Sur., 400 ft. S 45 deg. W of SW cor. of J. W. Allen 300-ac. tract ..... Drlg. shale 2,205 ft.

JEFFERSON COUNTY

Carroll & Miller's No. 1 C. A. Mashman, W. B. Dyches Sur., 462 ft. W of highway and 105 ft. S of NE line of 13-ac. tract ..... Derrick.

Coastal Oil Co.'s No. 1 Young, 250 ft. from E line, 160 ft. from S line of 40-ac. tract, in Blk. F-5, Lot 6, Joseph Grigsby Sur. ..... Drlg. sandy shale 2,745 ft.

Jack Schultz' No. 2 Todd, Cheek, 1,800 ft. S of No. 1 and 130 ft. E of W line of Wm. Carr Sur. ..... Shale 7,000 ft; S.D. to change rigs.

LIBERTY COUNTY

Mayes et al's No. 1 Dunman, J. C. Martin Sur., 1,111 ft. from S line of survey and 2,360 ft. W of Trinity River ..... Spudded and S.D.

James Papadakis' No. 1 Eicke, Reason Green Sur., 300 ft. from W line of 300-ac. tract in center N and S... Spudded and S.D.

MATAGORDA COUNTY

Cockburn Oil Corp.'s No. 5 Hawkins, Shepherds Mott, 2,200 ft. SE, 1,800 ft. NE of W cor. Daniel McCarthy Sur. ..... Drlg. hard lime and pyrites 4,982 ft.

Dr. Griffith et al's No. 3 Baer, Big Hill, 5,000 ft. N, 3,000 ft. E from SW cor. of Seth Ingram Sur. ..... Standing 2,720 ft.

Humble O. & R. Co.'s No. 1 Pierce Est., Isaac Foster Sur., 330 ft. from N line, 330 ft. from E line of tract ..... Drlg. shale 5,987 ft.

Rugeley et al's No. 1 Cleveland, E. Hall Sur., 450 ft. E of Cottonwood Creek and 200 ft. N of S line of 40-acre tract ..... No report.

R. L. Sprinkle et al's No. 1 Turner, 4,900 ft. from NE line, 3,300 ft. from SE line of M. Cummings Sur. ... Rig.

United North & South Dev. Co.'s No. 2 Stoddard, 25 ft. each way out of NW cor. of Lot 19, Buckeye Townsite ..... Moved rig to No. 1 Stoddard to work over.

United North & South Dev. Co.'s No. 1 St. L. & B. M. "Y," 200 ft. S of main line of RR and 200 ft. NE of SW fork of "Y" in townsite, J. C. Keller Sur. Drlg. hard sand and shale 5,525 ft.

MONTGOMERY COUNTY

A. H. Parsons et al's No. 2 Drought, Kronknite Sur., 2,000 ft. N, 100 ft. E of NW cor. of A. B. Hill 46½ acres ..... Drlg. shale 3,113 ft.

Continental Oil Co. and Julius Fohs' No. 1 Rock Creek Lbr. Co., J. Foster Sur., 1,866 ft. S and W out of NE cor. of 163-ac. lease ..... Drlg. shale and lime 3,410 ft.

Mound Creek Oil Co.'s No. 1 Sealey, 3,751 ft. E and 5,085 ft. N, from SW cor. of M. Cartwright Sur. in John Sealey Sur. ..... Spudded.

Rheubotham et al's No. 1 A. H. Sails, Wm. Barker Sur., 390 ft. from E line, 400 ft. from N line of W 56 acres of Sails tract ..... S.D. 910 ft.

R. L. Sprinkle's No. 1 Rohlfs, 600 ft. out of SW cor. of H. Proneus Sur. ..... Cmtd. 10-in. surface csg. 350 ft.

Sutton-Hawkins' No. 1 Foster, Hosea de la Garza Sur., 3,333 ft. N, 1,320 ft. E of NE cor. of W. J. Johnson 100-ac. tract ..... Drlg. shale 4,252 ft.

NEWTON COUNTY

L. A. James et al's No. 1 Price, T.&N.O. Sur., 1,000 ft. from W line, 500 ft. from N line of tract ..... Shale 2,340 ft.

POLK COUNTY

Anderson et al's No. 1 Duke, Peter J. Manard Sur., 330 ft. out of NW cor. of 235-ac. tract ..... S.D. 3,948 ft.

Harrison & Abercrombie's No. 1 Carter (558-ac. lease), N 60 deg. E 1,151 ft. and N 50 deg. 145 ft. out of NW cor. of John Sweeney Sur. ..... Cmtd. 10-in. csg. 962 ft.

Koch & Stevens' No. 1 Ruth Lawrence, Castallian Sur., 300 ft. from W line, 790 ft. from S line of 54-ac. tract ..... S.D. 2,800 ft.

Tony & Purdy's No. 1 Martha Roberts, Joaquin T. De Rumayor Sur. ..... S.D. 4,225 ft.

Dick Schwabb and Shell Pet. Corp.'s No. 2 Davis & Holmes, A. Viesca Sur., 485 ft. N, 376 ft. W of NE cor. of J. Duff 35 acres ..... T.D. 4,438 ft; plugged to 4,341 ft.

REFUGIO COUNTY

Gulf Prod. Co.'s No. 2 J. O'Connor (W.O.), C.E.P.I.&M. Co. Sur. No. 40, 1,200 varas from S line, 1,500 varas from E line of tract ..... Drlg. hard sandy shale 6,145 ft.

Gulf Prod. Co.'s No. 3 O'Connor, C.E.P.I.&M. Co. Sur., No. 133, 6,225 ft. SW along SE line from NE cor. of John O'Connor land, thence 2,639 ft. NW at right angles ..... Derrick.

Humble O. & R. Co.'s No. 8 O'Connor, Florentine Rice Sur., 13,787 ft. from S line at right angles, 3,412 ft. from E line at right angles of 3,543-ac. ranch ..... Drlg. shale 5,073 ft.

SAN JACINTO COUNTY

Weaver et al's No. 1 Delta Land & Timber Co., 1,400 ft. NE of SW line of James W. Robertson Sur., and 800 ft. at right angles ..... No report.

TRINITY COUNTY

C. M. Beckner's No. 1 Gibson, Wm. Beasley Sur., 600 ft. S along E line of survey and 150 ft. W at right angles ..... T.D. 1,192 ft; plugged to 999 ft.

South Gulf Oil Co.'s No. 1 Trinity Lbr. Co., 290 varas from N line, 650 varas from E line of Sec. 17, H.&T.C. Sur. ..... Location.

TYLER COUNTY

Republic Prod. Co. and Houston Oil Co.'s No. 1 Sam Jeffcoat, E. Thompson Sur., 467 ft. N and E from SW cor. of 160-ac. tract ..... Derrick.

Republic Prod. Co. and Houston Oil Co.'s No. 1 Kirby, E. Thompson Sur., 467 ft. N and E from NE cor. of Sam Jeffcoat 160 acres ..... Derrick.

Republic Prod. Co. and Houston Oil Co.'s No. 1 Sterne fee (W.O.), 8,334 ft. from W line and 484 ft. from N line of Adolphe Sterne Sur. ..... S.W. sand 5,619 ft; plugged to 4,587 ft; drilled to 4,694 ft; set 6 ft. of 5-in. screen; bailed down 3,000 ft; failed to flow; standing.

Republic Prod. Co. and Houston Oil Co.'s No. 1 Kirby-McShane, 467 ft. S and W of most northerly NE cor., B.B.B.&C. Sur. No. 17 ..... Rig.

VICTORIA COUNTY

Gulf Prod. Co.'s No. 3 Keeran Ranch, Martin DeLeon Sur., 1,320 ft. NW of No. 1 ..... Drlg. sand 6,140 ft.

Slick-Seeligson Corp.'s No. 2 McFaddin (D.D.), J. Varian Sur., 1,100 ft. NE of SW line, 635 ft. E of railroad.. T.D. 6,810 ft; plugged to 4,800 ft; drilled to 6,454 ft; D.S. stuck; plugged to 4,500 ft.

The Texas Co.'s No. 5 McFaddin, 1,300 ft. westerly, 300 ft. northerly at right angles from SE cor. of J. A. McFaddin 98-ac. tract ..... Drlg. shale and lime 4,469 ft.

Quintana Oil Co.'s No. 1 McCormic, 500 ft. from SW line, 500 ft. from NW line of S.A.&M.G. Sur., Sec. 3, in most westerly NW cor. ..... Drlg. rock 390 ft.

Union Oil Co.'s No. 2 Keeran, Martin DeLeon Sur., 500 ft. E of E line of Gulf lease and 1,900 ft. N of railroad ..... Cored sand showing oil 6,285-95 ft.

WALKER COUNTY

Pine Oil Co.'s No. 1 Smithers, Stephen Manning Sur., 700 ft. SW, 350 ft. SE of NE cor. of 266-ac. tract.. S.D. 2,680 ft.

WALLER COUNTY

Birdwell et al's No. 1 Robertson, John Baker Sur., 1,-635 ft. from S line, 450 ft. from W line of 64-ac. tract ..... Derrick.

Hobson et al's No. 1 Joe W. Harris, 3,000 ft. from E line, 5,000 ft. from N line of H.&T.C. Sur. in Harris 1,475-ac. lease in Justo Lleodo Sur. ..... Standing 4,954 ft.

WASHINGTON COUNTY

Tequa Oil Co.'s No. 18 Pomacal, S. M. Williams Sur., 1,282 ft. from W cor. of Shuls 44-ac. tract, thence 123 ft. NW at right angles ..... T.D. 1,515 ft.

WHARTON COUNTY

Herman Hedp's (was Dayvault-Tyler-Gardner's) No. 1 Dayvault, Wm. Kincheloe Sur., 209 ft. SW, 600 ft. SE of E. cor. of 295-ac. tract ..... T.D. 3,335 ft; waiting heavier rig.

Pure Oil Co.'s No. 1 Stewart, 2,419 ft. NW, 1,650 ft. NE of S cor. of Sec. 35, Morris & Cummings Sur. ..... Drlg. hard sandy shale and lime 1,653 ft.

Smith & Daniels' No. 1 Mitchell, H.&T.C. Sur. No. 8, 330 ft. from NE line of NE 80-ac. tract in center of tract NW and SE ..... T.D. 6,442 ft; Swung 197 ft. of 2½-in. screen on 6,279 ft. of 2½-in. tubing; washed and bottom of hole heaved in; shut in and fluid, 75% fresh wtr. and 25% distillate, rose 1,000 ft; 420 lbs. pressure.

Steed Prod. Co.'s No. 1 Tucker, 210 ft. W, 50 ft. N of NE cor. of S½ of SW¼ of Sec. 58, E.T.R.R. Sur. ... Drlg. tough gumbo 2,475 ft.

## SOUTH LOUISIANA

BEAUREGARD PARISH

DeRidder Dev. Co.'s No. 1 McMahon, 200 ft. W, 150 ft. S of NE cor. of NW Sec. 33-3s-9w ..... Standing 1,286 ft.

CALCASIEU PARISH

Cannon & Hughes' No. 1 J. S. Reed, Sec. 18-10s-12w..... Derrick.

I. R. Irvine et al's No. 1 A. D. Mimms, 741 ft. N, 741 ft. W of SE cor. SE NE Sec. 20-9s-7w ..... No report.

JEFFERSON DAVIS PARISH

B. D. Finly's No. 1 Clarphy Legnion, SW NW Sec. 32-10n-4w ..... Cmtd. surface csg. 510 ft.

Humble O. & R. Co.'s No. 1 Devilbiss, 1,650 ft. S, 350 ft. W of NE cor. of Sec. 14-9s-4w ..... Cmtd. csg. 1,995 ft.

LA FOURCHE PARISH

Lehulu Oil Co.'s No. 1 La. Fourche Land Co., 150 ft. out of SE cor. NW NW Sec. 32-18s-22e ..... Spudded.

PLAQUEMINES PARISH

The Texas Co.'s No. 7 Garden Island ..... Drlg. 710 ft.

ST. BERNARD PARISH

Cook Drlg. Co.'s No. 1 Delecroix farm ..... Shale 4,177 ft.

TERREBONNE PARISH

The Texas Co.'s No. 7 Calliou Island, 300 ft. S, 300 ft. W of NE cor. Sec. 19-23s-20e ..... Drlg. sticky shale 1,300 ft.

The Texas Co.'s No. 17 State-Lake Barre, 1,476 ft. W, 626 ft. S of NW cor. Sec. 20-21s-20e ..... T.D. 4,436 ft. in salt; sidetracking in anhydrite 2,000 ft.

The Texas Co.'s No. 4 Lake Barre-L.L.&E., 3,803 ft. S, 2,075 ft. W of NW cor. Sec. 30-21s-20e in Sec. 36-21s-19e ..... Drlg. shale 3,710 ft.

VERMILLION PARISH

Shell Pet. Corp.'s No. 1 Herbert, 2,310 ft. W, 330 ft. N of SE cor. Sec. 10-15s-1e ..... Drlg. sticky shale 1,770 ft.

VERNON PARISH

Minerals Division Llano Co.'s No. 1 Llano Del Rio, 543 ft. E, 360 ft. S of NW cor. NW Sec. 34-2n-9w ..... No report.

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## Wildcat Operations in Southwest Texas

(Continued from Page 64)

BEXAR COUNTY

Amsden-Ingersoll-Miller's No. 1 Strumberg, 450 ft. to W line, 1,020 ft. to N line of tract, 12 miles SW of San Antonio ..... T.D. 1,054 ft.; standing.

Motes-Campbell's No. 1 Pruitt, 550 ft. NE of Trussell's No. 1 Pruitt, 54 varas from E line of tract in Samuel McCollough Sur. ..... Rigging up.

Robert C. Hill's No. 1 Scheil, 1,300 ft. from N line, 1,100 ft. from W line of 161-ac. tract in Sec. 234, Perretaux Sur. ..... T.D. 894 ft.; S.D.

Rollin V. Hill, Sr.'s No. 1 Max Boeck, 1,700 ft. from N line, 2,700 ft. from E line of tract in J. R. Shepherd Sur. ..... T.D. 398 ft.; setting csg.

O. L. Ray's No. 1 Thos. Dillon, 2,500 feet from NW line, 1,750 ft. from most southerly SW line of de Luna grant in southern part of county ..... Rigging up.

H. G. Venable's No. 2 F. Dulling, 1,500 ft. W of center of E line of tract ..... Location.

W. L. Whicker's No. 1 Bilhartz ..... Location N of No. 1 Strumberg, and W of No. 1 Carruth.

BLANCO COUNTY

H. T. McGee's No. 1 Forbes, cen. Sec. 167 ..... Rigging up.

Hardy Sitton's No. 1 Luders, 150 ft. from S line, 1,420 ft. from E line of James Stanford Sur. ..... T.D. 1,540 ft.; standing.

CALDWELL COUNTY

Louis Crouch's No. 1 Sue Neelan, 1,500 ft. to SE lines, 150 ft. from NE lines of 200-ac. tract in John B. Gray Sur. ..... T.D. 1,000 ft; drlg.

J. M. Dickson's No. 1 W. T. Mooney, 7,600 ft. from NE line, 5,200 ft. from SE line of Solomon Seal Sur..... T.D. 2,320 ft; abd.

E. D. Herne's No. 1 M. C. and P. W. Jeffrey 136-ac. tract, 150 ft. from N and E lines of tract in James George Sur. ..... Set surface pipe, waiting for wtr.

E. L. Hope and Joe Cole's No. 1 M. August, 150 ft. from NE line, 165 ft. from NW line of tract in A. Floyd Sur. ..... T.D. 90 ft; drlg.

J. W. Kemp's No. 1 George Vickery, 760 ft. from SE line, 200 ft. from NE line of tract in Squire Damon Sur. ..... T.D. 2,100 ft; rigging up to pump.

E. R. Thomas' No. 1 Alexander, 568 varas from NW lines, 324 varas from NE line of 158 acres in Spiller Sur. ..... Rigging up.

DIMMITT COUNTY

Motes-Campbell Co.'s No. 1 Denton, 150 ft. from E line, 250 ft. from S line of Tracts 33 and 34 in Sec. 60 of Denton Colony Subd. ..... T.D. 1,400 ft; changing to rotary.

DUVAL COUNTY

Buchanan, Schoolfield & Frasher's No. 1 Sling, 330 ft. from N and E lines of SE of Sur. No. 118 ..... T.D. 2,605 ft; abd.

Cowden et al's No. 1 State Bank of Alice, 200 ft. to S line, 1,450 ft. to W line of E. Valentine Sur. No. 26.. Steel derrick.

Frank Gravis' No. 3 Schallert in Sur. 255 (Palangano salt dome) ..... T.D. 2,060 ft; abd.

Huff & Kyle's No. 1 A. Roach, 865 ft. from E line, 45 ft. from S line of Blk. 7, Sur. No. 457 ..... T.D. 172 ft; drlg.

Edwin M. Jones' No. 1 Duval County Ranch Co., 150 ft. to S and E lines of NE of Sur. 278 ..... T.D. 2,010 ft; abd.

Ed Leach et al's No. 1 C. J. Bain, 330 ft. to S line, 330 ft. to E line of NW SW of Sur. 264 ..... Rigging up.

Magnolia Pet. Co.'s No. 1 Duval County Ranch Co., Sur. 208 ..... Derrick.

Newton et al's No. 1 Welder-Wood, 5,550 ft. from W line, 4,590 ft. from N line of Sur. 102 ..... Rigging up.

Plymouth Oil Co.'s No. 2 Hoffman, 1,320 ft. from SE line, 2,640 ft. from SW line of Sur. 117 ..... T.D. 600 ft; drlg.

C. P. Scott's No. 1 J. W. Kidd, 990 ft. from N and E lines of SE of Sur. No. 56 ..... T.D. 2,264 ft; cored sand.

Smith & Capps' No. 1 Peters, 330 ft. from S line, 340 ft. from W line of NE of Sur. No. 178 ..... T.D. 2,451 ft; setting csg.

Stanley Smith's No. 1 C. Pena, 330 ft. from S and W lines of Sur. No. 78 ..... T.D. 1,930 ft; tested 135 lbs. gas.

Wm. B. Stewart's No. 1 Duval County Ranch Co., 990 ft. to S and E lines, of NE of Sur. 342..... Location.

Wm. B. Stewart's No. 2 Duval County Ranch Co., 330 ft. from N and W lines of N½ SW of Sur. 342..... Moving in.

S.R.C. Oil Co.'s No. 1 Duval County Ranch Co., 150 ft. from N line, 4,200 ft. from W line of Sur. 192..... Rigging up.

Sun Oil Co.'s No. 2 Duval County Ranch Co., 1,320 ft. to E line, 672 ft. to N line of Sur. 254 ..... Rigging up.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Halff & Oppenheimer, 1,200 ft. from N line, 200 ft. from E line of W. F. Haisel Sur. ..... T.D. 6,084 ft; drlg.

**GILLESPIE COUNTY**

Rod Lagra's No. 1 Stephen, 500 ft. from N and W lines of A.B.&M. Sur. No. 969 ..... Spudded in.

**GUADALUPE COUNTY**

B. E. Brock's No. 1 Ogletree, 1,600 ft. from W line, 450 ft. from S line of tract in Robert Smith Sur. ..... T.D. 2,080 ft.; drlg. lime.
Keene & Russell's No. 1 Lowman, 300 ft. from E line, 350 ft. from N line of tract in George Allen Sur. .... T.D. 380 ft; standing; to be completed by Clint Lanier.
W. A. Scrutchin's No. 1 S. J. Lowman, 170 ft. from N line, 195 ft. from W line of 10-ac. tract, in Blk. 1, Sec. No. 1 of S. J. Barnes Sur. ..... Derrick.
O. R. Seagraves' No. 1 Krueger, 150 ft. to N and W lines of 88.75 acres in John G. King Sur. 15 ..... Rigging up.
Smith's No. 1 Lowman, offsetting old test of Humble .. T.D. 400 ft; standing.
Walton et al's No. 1 Dan Darling, 1,890 ft. from NW line, 1,198 ft. from SW line of Ben Fuqua Sur. ..... T.D. 216 ft.; S.D. to clear title.

**GOLIAD COUNTY**

Hoffman & Gooch's No. 1 Fromme, 600 ft. from N and 1,300 ft. from W line of Peter B. Dexter Sur. ..... T.D. 2,470 ft.; standing.

**GONZALES COUNTY**

Antibus et al's No. 1 James, 6,350 ft. from N line, 1,300 ft. from E line of Mary A. Williams Sur. ..... T.D. 2,480 ft; S.D.
Edmiston & Kirby Pet. Co.'s No. 1 J. W. Ward, Jr., 300 ft. from N line, 833 ft. from W line of tract in Dan McKay Sur. ..... T.D. 1,592 ft.; standing.
A. King's No. 1 F. Ramzinski, 1,021 ft. from N line 1,320 ft. from E line of tract in Gonzales Townsite Sur. ..... Spudded in.

**HIDALGO COUNTY**

Barrett-Kanellos' No. 1 J. B. Brock, 7 miles W and N from Mission (on Monte Cristo road) ..... T.D. 4,590 ft. S.D.
Palm City Pet. Co.'s No. 1 J. T. Lomax, 7,500 ft. from S and E lines of San Roman Sur. ..... T.D. 1,445 ft.; drlg.
Dayle L. Smith's No. 3 Daskam, SW part of county ..... T.D. 1,726 ft.; S.D.

**JIM HOGG COUNTY**

Cole Pet. Co.'s No. 1 W. Allen, 990 ft. to E line, 1,320 ft. to N line of Blk. 13, Randado grant ..... T.D. 3,108 ft; testing.

**JIM WELLS COUNTY**

Humble Oil & Ref. Co.'s No. 1 Fuhrkin, 1,117 ft. from N line, 450 ft. from W line of 150.77-ac. tract in Phillips Sacks Sur. ..... T.D. 2,889 ft; drlg.
F. A. Lain's No. 1 Vernon Porter, 800 ft. from S line, 400 ft. from W line of 200-ac. tract in Sur. 25 ..... T.D. 3,611 ft.; standing.

**KARNES COUNTY**

A. E. Edmiston's No. 1 G. W. Cross, 500 ft. from E line, 150 ft. from N line of tract in M. N. Reed Sur. ..... Spudded in.
Hindeman et al's No. 1 F. C. Weinert ..... Spudded in, S.D.
H. J. Porter et al's No. 1 Reasoner, 1,800 ft. to S line, 650 ft. to E line of 125-ac. tract ..... T.D. 2,267 ft; drlg.
Tippett & Mull's No. 1 Smith, 8,500 ft. from N line, 200 ft. from E line of Francis Haskins Sur., 3½ miles E of Helena ..... Spudded in.

**KENDALL COUNTY**

Dupree et al's No. 1 Hagg, 600 ft. to S line, 2,700 ft. to W line of tract, B.B.B.&C. Sur. 91 ..... Location.
Verland Trust's No. 2 Willie Werner, 1,400 ft. N and 150 ft. W of No. 1 P. B. Sterling's No. 1 Willie Werner ..... T.D. 935 ft; will shoot with nitro.

**KERR COUNTY**

Eastland Oil Co.'s No. 1-C Jeff Love, 150 ft. from S and E lines of C.C.S.D&R.G.N.G. Sur. No. 1,595 ..... T.D. 2,542 ft; U.R.
Evans & Gant's No. 1 Estelle Young, 150 ft. out of NW cor. of Sec. 28, E. A. Burge Sur. ..... T.D. 1,310 ft.; standing.
Van Duyn & Moore's No. 1 Nowlin, 2,000 ft. from E line, 2,200 ft. from N line of James R. Bettner Sur. .. T.D. 525 ft.; setting csg.
Verde Oil & Gas Co.'s No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,923 in Hamilton Sur. ..... T.D. 118 ft.; standing.

**KLEBERG COUNTY**

Harris et al's No. 1 Dennett, 600 ft. from S line, 760 ft. from E line of Blk. 7, Sec. 38, Kleberg Town & Imp. Co. Subd. ..... T.D. 2,230 ft; coring.
H. Carter's No. 1 R. H. Simmons, 150 ft. from S and W lines of tract in Sec. 7, King Sur. No. 3 ..... T.D. 3,205 ft.; standing.

**LA SALLE COUNTY**

Interstate Oil Industries, Inc.'s No. 1 J. F. Mayes, 600 ft. from S and W lines of Blk. 20, L.&G.N. Sur. No. 19 ..... T.D. 2,825 ft; standing.

**LIVE OAK COUNTY**

Carroll Brown's No. 1 Beckley, 1,800 ft. E along N line of T. B. Sparks Sur., from NE cor., thence 150 ft. at right angles, L. J. Sparks Sur. ..... T.D. 1,050 ft; drlg.
J. A. Harper's No. 2 fee, center of Blk. 40 ..... Location.
H. A. Pagenkopf's No. 1 Nichols, 850 ft. to W of E line, 450 ft. S of E line, Bridget Haughtey Sur. ..... T.D. 761 ft.; drlg.
C. J. Webster Oil & Gas Co.'s No. 1 O. F. Akers, 300-ac. tract in T. Henry Sur. ..... T.D. 100 ft.; standing.

**LEE COUNTY**

Paton Bros.' No. 2 Turner, 150 ft. due SE of No. 1-A Turner, junked at 5,675 ft. in the David Hudson Sur., 2 miles SE from Tanglewood ..... Location.

**MAVERICK COUNTY**

H. E. Lewis' No. 1 Kifuri, 640 varas E of river, 140 varas from S line of Poindexter & Burns Sur. 31 .... Location.

**McMULLEN COUNTY**

L. W. Cappa' No. 1 Hagist, 1,650 ft. from N line, 2,640 ft. from E line of Sec. 6, J. W. Osborne Sur. ..... Location.
Homer T. Lamb's No. 1 J. T. Brown, 150 ft. to N line, 2,450 ft. to W line of 692-ac. tract in M. Hely Sur. .. Location.
Howeth & O'Neill's No. 1 Roos Bros., 150 ft. from N line, 650 ft. from W line of Sec. 30, Rhodes ranch, Beatty, Seale & Forwood Sur. ..... T.D. 2,878 ft; test S.W.
Jaqua & Crow's No. 1 Hagist, 330 ft. from N and W lines of R. W. Mills Sur. No. 467 ..... Ready to resume.
Chas. B. Loftin's No. 1 R. H. Brown, in R. H. Brown Sur. No. 8 ..... T.D. 715 ft; drlg.
C. C. Shumway's No. 1 Shiner, 400 ft. from W line, 200 ft. from N line of Blk. 45 of Shumway Subd. of Shiner ranch ..... T.D. 370 ft.; S.D.

**MEDINA COUNTY**

James E. Greenlee's No. 1 Feasler, 600 ft. from N line and 2,400 ft. from E line of L. G. Harrison Sur. No. 799 ..... T.D. 1,230 ft.; standing.
Moore, Richey & Clifton's No. 1 Reicherers, 150 ft. from N and W lines of tract, SW of Lacoste ..... Set surface csg.
F. Ryal's No. 1 G. Martin, 150 ft. from S and W lines of Blk. 368, H. Castro Sur. ..... Spudded in and S.D

**MILAM COUNTY**

Bridwell's No. 1 Terry, 1,100 ft. from N line, 800 ft. from W line of tract in Jose Leal Sur. ..... T.D. 2,460 ft; S.D.
Clark et al's No. 1 Hoppe, 450 ft. to NE lines, 450 ft. to SE lines of E. Hoppe 60-ac. tract in Juan Jose Acosta Sur. ..... Rigged up and S.D.
Ed Clark's No. 1 Pritchard, 1,100 ft. to SE lines, 700 ft. to NE lines of 163-ac. tract in F. Ernst Sur., 6¼ miles NE Thorndale ..... Rigged up.
Glass et al's No. 1 Ellison, 700 ft. from N line, 1,550 ft. from W line of 200-ac. tract in Samuel Frost Sur. .. T.D. 1,790 ft; abd.
Kayser & Roberts' No. 3 Ward, 125 ft. NE of No. 2 Ward, on S. S. Pallin tract in Levi Taylor Sur. ..... T.D. 1,830 ft; abd.
Marvel Wells, Inc.'s No. 1 fee, center of 5-ac. tract out of Wm. Henitz 133.3-ac. tract in J. J. Liendo Sur.. T.D. 2,435 ft; flowing sulphur wtr.; drlg. ahead.

**NUECES COUNTY**

Miller et al's No. 1 Harney, 200 ft. from NW line, 1,850 ft. from SW line of 445-ac. tract in Gregoria Farias Sur. ..... Moving in tools.
George Noble's No. 1 Homeland Syndicate, 300 ft. to SE and SW lines of Blk. 8, Sec. 12, 5 miles S Corpus Christi ..... Location.

**STARR COUNTY**

Adams & Modest's No. 1 Wood, 2,070 ft. from W line of Porcion 84, Camargo, and 1,472 ft. N of Missouri Pacific Railroad ..... Spudded in.
W. P. Chancellor's No. 1 A. Guerra, 26,000 ft. from S line, 2,600 ft. from E line of Share 6, of San Jose grant ..... T.D. 750 ft.; drlg.
B.&B. Oil Co.'s No. 1 Crown Brick & Tile Co., 1,800 ft. S of State Highway No. 4 and 580 ft. from W line of Porcion 87, near La Puerta ..... T.D. 3,675 ft; drlg.
D. H. Carpenter's No. 1 Salinas, 3,087 ft. from N line, 1,321 ft. from E line of Share 85 of partition of Porcions 38, 39, 40 in Jurisdiction of Reynosa ..... T.D. 2,750 ft; repairing rig.
Coastal O. & G. Co.'s No. 1 Kelsey Bass, 448 ft. to N line, 150 ft. to W line of Tract 52, Sur. 3, Porcion 86.. T.D. 1,360 ft.; changing to heavier rig.
Goodwin & Yantis' No. 1 Walker, 450 ft. SE of W line of Isabel Lopez property in Sur. 767 ..... Moving in rig.
Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE of NW of Sur. No. 344 ..... T.D. 1,076 ft; drlg.
Jeffries and Lambeth Drilling Co.'s No. 1 Starr County Cattle Co., 11,872 ft. from N line, 2,490 ft. from E line of Porcion 89, Jurisdiction of Camargo ..... T.D. 1,522 ft; drlg. in.
Boyd C. Jones' No. 1 Garza, 2,407 ft. from N and E lines of Share 26, Part. of Porcions 67-72, Jurisdiction of Mier ..... T.D. 505 ft; no report.
LaJoya Oil & Gas Co., in Porcion 29, NE part of county.. Location.
A. C. McGahhey's No. 1 Fernandes Bros., 1,800 ft. from W line, three-quarters of a mile from Rio Grande River, in Porcion 99, Jurisdiction of Camargo ..... T.D. 180 ft.; drlg.
D. A. Miller's No. 1 Madrigal, 4,827 ft. to N line, 1,987 ft. to E line of Share 15, Porcions 67, 72, 1 mile NE of Roma ..... T.D. 105 ft.; no report.
John Pope, trustee's No. 2 H. Gonzales, 150 ft. W of cen. of E line of Sur. No. 339 ..... Spudded in.
J. W. Seaward's No. 1 F. Dawson, 495 ft. from W line, 240 ft. from S line of tract in Blk. 6, Share 3-B of Porcion No. 70 ..... Location.
George Stobaugh's No. 1 Seabury et al, 150 ft. from S and W lines of Porcion 107 ..... T.D. 278 ft.; no report.
Travelers Oil Co.'s No. 1 C. Ramos, 2,000 ft. from SW lines, 2,640 ft. from NW lines of Sur. 150 ..... Location.

**TRAVIS COUNTY**

J. L. Collins & Co.'s No. 1 John Carlson, 630 ft. to NE lines, 1,570 ft. from SE lines of 177-ac. tract in M. W. Smith Sur. ..... T.D. 950 ft; reaming
Franklin et al's No. 1 Reimer, 1,200 ft. from SE line, 1,400 ft. from most southerly SW line of Sur. 35 .. T.D. 220 ft.; S.D.
Fritz Fuch's No. 2 Wm. Smith, 150 ft. from NE line, 750 ft. from NW line of N 113 ac. in L. Kimbro Sur.. T.D. 760 ft.; fishing.
Robinson et al's No. 1 O. L. Brady, 155 ft. to N line, 300 ft. to W line, McMillan Sur. ..... Location.

**UVALDE COUNTY**

J. V. Scoggin's No. 1 Olive Henry, 1,100 ft. from N and E lines of tract in Hugh Kilgore Sur. ..... T.D. 670 ft.; S.D.

**WEBB COUNTY**

J. W. Edwards' No. 1 M. D. Slator, 1,320 ft. to NE and NW lines of Blk. 72, Slator Subd. of J. V. Borrego grant ..... T.D. 2,050 ft; standing.
Frank Gravis' No. 1 Puig, 150 ft. to N and W lines of Blk. 12, Edginton Subd., Albereas grant ..... T.D. 100 ft; abd.
O. W. Killam's No. 6 Bruni, 150 ft. S 55 deg. W from S cor. of Sur. 18, Ranchita Pasture, Borrego grant.. T.D. 1,200 ft; drlg.

**WILLIAMSON COUNTY**

McLean et al's No. 2 R. C. Miller, 800 ft. to S line, 100 ft to W line of tract in B. Manlove Sur. ..... T.D. 1,669 ft; S.D.
E. F. Smith's No. 1 H. C. Braker, 1,600 ft. to SW lines, 900 ft. to NW lines of E. J. Mahan Sur. ..... T.D. 513 ft.; S.D.

**ZAPATA COUNTY**

Hamilton, Brower & Crow's No. 1 Slator, 2,111 ft. from SW line, 1,980 ft. from SE line of Blk. 1, Subd. of Slator ranch in J. V. Borrego grant ..... Location.
Donohoo et al's No. 1-A Garcia, 150 ft. from NE and SE lines of Blk. 7 of Subd. of 700-ac. of Share A, Charco Redondo grant ..... T.D. 1,143 ft; standing.
T. J. Murray's No. 1 S. Vela, 285 ft. from NE line, 158 ft. from SE line of Blk. 145, Doty Subd., Share 4, El Grullo grant ..... Rigging up.
Phelps, Taegel & Leyendecker's No. 1 Martinez, 150 ft. to N and W lines of Blk. 15 of S. T. Phelps, Jr. Subd. "A" of Villa grant ..... T. D. 1,815 ft; testing.

**ZAVALA COUNTY**

Adair & Daniel's No. 1 Gates, 1,320 ft. from N line, 1,220 ft. from E line of Hooper & Wade Sur. No. 13.. T.D. 3,833 ft; S.D.

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# Southwest Texas Proven Areas

**Week Ending January 14**

JACOBS POOL—ATASCOSA COUNTY

Company, well, farm name, section and block— Remarks:
Jacob, Buzzini & Pickett's No. 1 Roundtree, 330 ft. from NE and SE lines of W¼ of J. Pointevant Sur. 1. Moving in tools.

RIDDLE POOL—BASTROP COUNTY

Ogden & Reed's No. 8 Riddle, 600 ft. S and E of No. 1 Riddle in 94.5-ac. tract in Joshua Gray Sur. ..... Clearing site.
Ogden & Reed's No. 1 Miera, beginning at the intersection of the C. L. Riddle and W. M. and Viola Riddle tracts, thence W 300 ft., thence S at right angles 150 ft. in W. H. Leech Sur. ..... T.D. 2,285 ft; coring lime and Serpentine.
Ogden & Reed's No. 2 J. W. Mears, 600 ft. W of No. 1 Leach Sur. ..... Location.
Ogden & Reed's No. 2 Riddle, 600 ft. N of No. 1, J. Gray Sur. ..... Location.
Ogden & Reed's No. 3 Riddle, 600 ft. N of No. 2, J. Gray Sur. ..... Location.
Ogden & Reed's No. 4 Riddle, 600 ft. S of No. 1, J. Gray Sur. ..... Location.
Ogden & Reed's No. 5 Riddle, 600 ft. E of No. 3, J. Gray Sur. ..... Location.
Ogden & Reed's No. 6 Riddle, 600 ft. E of No. 2, J. Gray Sur. ..... Location.
Ogden & Reed's No. 7 Riddle, 600 ft. E of No. 1, J. Gray Sur. ..... Location.

NORMANNA POOL—BEE COUNTY

Gulf Coast Oil Co.'s No. 5 Hicks, 600 ft. E of Nichols Oil Co.'s No. 2 Hicks ..... T.D. 4,060 ft; coring.

PETTUS FIELD—BEE COUNTY

J. L. Mauldin's No. 3 fee, 300 ft. S of No. 1 fee, George A. Kerr Sur. ..... T.D. 3,881 ft; drlg. in.
Slick-Seeligson's No. 8 Ray, 800 ft. from SE line, 300 ft. from NE line of company lease in George A. Kerr Sur. ..... T.D. 135 ft; drlg.

TULETA POOL—BEE COUNTY

Conservative Oil Co.'s No. 1 Cloutts, 165 ft. from W line, 150 ft. from N line of SW SW SW Sec. 2, of Ragsley Subd. of Miller ranch in Uranga Sur. ..... T.D. 4,200 ft; drlg.
Taber et al's No. 1 Harris, 150 ft. from N and W lines of Blk. 13, Sec. 13, Ragsley Subd. of Uranga grant .. T.D. 4,328 ft; plugging back.
The Texas Company's No. 2 Cox, 250 ft. from S and W lines of SE of SW of SW of Sec. 2, Ragsley Subd. of Uranga tract ..... Location.

GAS RIDGE—BEXAR COUNTY

American Gas Co.'s No. 5 W. H. Kennon, 1,750 ft. from S line, 2,000 ft. from E line of 400-acre tract in Maria F. Rodriguez Sur. ..... T.D. 2,230 ft.; standing.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 2 J. H. Gembler, 160 ft. from N and E lines of tract in A. Manchaca Sur. 61.T.D. 1,216 ft.; standing.
E. M. Carl's No. 1 F. Gembler, 160 ft. from N line, 750 ft. from E line of tract in J. Montes Sur. .....T.D. 825 ft.; standing.
F. H. Eckert's No. 1 Adolph Brehm, 150 ft. to S and E lines of tract in west part of Boquar Sur. .....Moving in rig.
F. H. Eckert's No. 6 Louis Brehm, 320 ft. S of No. 5, 150 ft. to S line, 480 ft. to E line, Boquar Sur. .....Moving in rig.
Gatlin Oil Co.'s No. 15 I. A. Beck, 150 ft. from S and E lines of tract in J. Montes Sur. .....Location.
W. R. Swearingen's No. 11 Halbardier, 400 ft. SE of No. 10 Halbardier, J. F. Perez Sur. .....Location.

DUNLAP POOL—CALDWELL COUNTY

Bob Rose's No. 2-B Walker 46-ac. tract, 360 ft. from NW line, 800 ft. from SW line of tract in Solomon Beal Sur. .....T.D. 2,372 ft.; waiting for pump.

SALT FLATS—CALDWELL COUNTY

Hickman et al's No. 1 C. A. Dickerson, 150 ft. N of con. of S line of tract in John D. Rains Sur. .....T.D. 2,172 ft.; standing.

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Buckner & Graham's No. 1, Sur. 55 .....Location on 35-ac. strip off east side of Sur. 55.
Buckner & Graham's No. 1, 330 ft. to S and E lines of SE NE of Sur. 41 .....Rigging up.
R. B. Byrd's No. 4 Wright, 1,036 ft. from W line, 330 ft. from S line of Sur. No. 101 .....T.D. 2,332 ft; drlg. in.
R. B. Byrd's No. 5 Wright, 330 ft. from N line, 1,470 ft. from W line of Sur. 101 .....Location.
Central Powers, Inc.'s No. 5 Tuck-Johnson, 330 ft. from N and W lines of SE SW Sur. 42 .....T.D. 610 ft; drlg.
H. H. Coffield's No. 5 H. Wendt, 310 ft. to E line, 330 ft. to S line, SE NE Sur. 45 .....Derrick.
W. T. Daniels' No. 1 F. J. Smith, 330 ft. from N and W lines of SW of NE of Sur. No. 46 .....T.D. 900 ft; waiting on boiler.
Hamill & Hamill's No. 5 C. W. Hahl, 330 ft. to N line, 990 ft. to E line, N½ SE Sur. 43 .....T.D. 2,295 ft; comp. flowing 12 bbls. hourly.
Highland Oil Co.'s No. 5 Lundvall, 330 ft. to N line, 990 ft. to W line of S½ NE of Sur. 42.....T.D. 2,275 ft; comp. gauged 65 bbls. hourly on ¾-in. choke.
Highland Oil Co.'s No. 6 Lundvall, 660 ft. to E of No. 5, Sur. 42 .....Location.
Highland Oil Co.'s No. 7 Lundvall, 330 ft. to N and E lines of S½ of NE of Sur. 42 .....Location.
Highland Oil Co.'s No. 8 Lundvall, 330 ft. to S and E lines of S½ of NE of Sur. 42 .....Location.
Luse & Russ' No. 4 Hahl, 330 ft. to S and E lines of NW of SE of Sur. 45 .....T.D. 2,319 ft; set csg.
Edwin M. Jones' No. 1 Luptak, 150 ft. to S and E lines of NE NE of Sur. 41 .....Rigging up.
Magnolia Pet. Co.'s No. 3 J. V. Allen, 330 ft. to N and E lines, S½ NE Sur. 42 .....T.D. 2,300 ft; comp. 17 bbls. hrly.
Magnolia Pet. Co.'s No. 4 J. V. Allen, 330 ft. to S and W lines of S½ SE Sur. 43 .....Rigging up.
Magnolia Pet. Co.'s No. 3 Brodbeck, 330 ft. from N and E lines of W½ NW NE Sur. 44 .....Location.
Magnolia Pet. Co.'s No. 4-A Hahl, 330 ft. from N and W lines of SW SE Sur. 45 .....T.D. 2,304 ft; comp. 10 bbls. hrly.
Magnolia Pet. Co.'s No. 2 J. W. Riley, 990 ft. from N line, 330 ft. from E line, NE SW Sur. 45 .....T.D. 2,285 ft; comp. 10 bbls. hrly.
Magnolia Pet. Co.'s No. 2 White, 330 ft. from N and W lines of Sur. No. 64 .....Location.
Magnolia Pet. Co.'s No. 13 Wendt, 330 ft. to S and E lines of SW of NW of Sur. 44 .....T.D. 2,324 ft; comp. 25 bbls. hrly.
San Diego Oil Corp.'s No. 5 E. Riley, 330 ft. from S and W lines of NW NW of Sur. No. 46 .....Location.
San Diego Oil Corp.'s No. 2 L. Bennett, 500 ft. N of No. 1, 250 ft. to W line of SE SW of Sur. No. 44....Location.
San Diego Oil Corp.'s No. 4 E. Riley, 330 ft. from N line, 550 ft. from W line of NW NW of Sur. No. 46..Location.
San Diego O. & G. Co.'s No. 2 Heller, 200 ft. to S and W lines of SW SE of Sur. 44 .....Location.
Seacord & Putnam's No. 1 Lundell, 330 ft. from S and E lines of NW of NE of Sur. No. 40 .....Derrick.
The Texas Company's No. 3-A Wendt, NW Sur. 42 .....Location.
The Texas Company's No. 3 Riggs, 200 ft. from N and E lines of NE of NW of Sur. No. 46 .....Location.
The Texas Co.'s No. 5 Johnson, 330 ft. to S line, 990 ft. to W line of N½ SW of Sur. 42.....T.D. 710 ft; drlg.
Whisenant et al's No. 5 Hahl, 330 ft. to N and W lines of SW SW of Sur. 44 .....Location.
Wilkins Seacoard's No. 1 Lundell, 330 ft. to S and E lines of NW of NE of Sur. 40 .....Location.
Windsor Oil Co.'s No. 2 Cummings, 210 ft. from N line, 330 ft. from E line, E½ NW NE Sur. 44 .....Location.

SOUTH GOVERNMENT WELLS FIELD—DUVAL COUNTY

Humble Oil & Ref. Co.'s No. 10 White, 320 ft. to S line, 1,650 ft. to E line of Sur. 349 .....T.D. 1,550 ft; drlg.

SARNOSA FIELD—DUVAL COUNTY

Atravasada Oil Co.'s No. 1 P. Henrandez, 320 ft. to NW and SW lines of E half of Sur. 574 .....T.D. 970 ft; standing.
Sarnosa Oil Corp.'s No. 5 Weil, 660 ft. due S of No. 4....Setting csg.
Smith & Cappe' No. 4-A Duval County Ranch Co., Sur. No. 574 .....Location.
Sun Oil Co.'s No. 2 Cuellar (Cano), 150 ft. from SW and SE lines of E quarter of Sur. No. 576.....Rigged up.
The Texas Co.'s No. 3-A Duval County Ranch Co., 1,-053 ft. to SW lines, 330 ft. to SW lines of N¼ of Sur. 574 .....Rigging up.

DARST CREEK FIELD—GUADALUPE COUNTY

John F. Camp's No. 3 Sue Denman, 1,025 ft. S of road, 540 ft. to E line of tract in Wm. Arrington Sur. ....T.D. 2,947 ft.; drlg.

SAL-MAR FIELD—GUADALUPE COUNTY

A. H. Barnhoff's No. 1 Chas. Woehler, 300 ft. to N and E lines of 138-ac. tract in G. W. Williams Sur. No. 46..Derrick.
A. W. Wormser's No. 1 Harris, 150 ft. from N line of tract and 150 ft. E of creek in Green Dewitt Sur.....Derrick.

HORD'S CREEK—GOLIAD COUNTY

Sam Vanderweiss' No. 1 Kaufman, 3,700 ft. NE of NE line of B. Merrill Sur., 300 ft. NW of NW line of Vincente Ramos Sur. .....T.D. 4,254 ft; reaming to test.

ALWORTH FIELD—JIM HOGG COUNTY

H. C. Cate's No. 1 B. J. Leyendecker, 70 ft. to E line, 330 ft. to S line, Blk. 10, Sur. 148 .....T.D. 1,132 ft; standing.

SANDIA POOL—JIM WELLS COUNTY

Crude Oil Royalty Co.'s No. 1 Allen (first carried as Hughes & Long's No. 1 Wade), Con. Blk. 2, Wade ranch .....Rig on ground.
Larero Gas & Pet. Co.'s No. 3 Wade, 2,900 ft. S, 33 deg. W of No. 2 Wade, thence 1,370 ft. N. 57 deg. W....Material on ground.

WERNER POOL—KERR COUNTY

Sterling O. & G. Co.'s No. 2 Willie Werner, 470 ft. N, 150 ft. W of No. 1 .....T.D. 925 ft; drlg.

JACOB POOL—McMULLEN COUNTY

Lefevre & Spice's No. 1 Jacob, 2,666 ft. to S line, 1,260 ft. to E line of J. Poitevent Sur. 53 .....Location.
Longhorn Oil Co.'s No. 2-A Lark, 660 ft. N of No. 1-A Lark .....T.D. 300 ft; drlg.
Tarver & Nance's No. 1 J. Dickinson Farm Mtg. Co., 150 ft. to E line of McMullen County, 200 ft. to NW lines of tract, or 200 ft. SE of SE line of Campbell Berry Sur. .....T.D. 442 ft; drlg.

ADAMS FIELD—MEDINA COUNTY

Yantis Oil Co.'s No. 1-A Adams, 50 ft. from No. 1 .....T.D. 680 ft.; S.D.

SAXET FIELD—NUECES COUNTY

Cappe and Smith's No. 1 Hutchins, 350 ft. from S and E lines of 80-ac. tract in George Frank Sur. No. 415..T.D. 3,004 ft; sidetracked; drlg. 3,950 ft.
Gibson Oil Co.'s No. 1 F. J. Smith, 330 ft. to S and E lines of Shepherd Farm Lots No. 35 .....Bldg. derrick.
Gulf Coast Oil Co.'s No. 2 Perkins & Lagasse, 650 ft. from N line, 990 ft. from E line, Sec. 36, Shepherd farm lots .....T.D. 5,060 ft; plugging back.
Gulf Port Oil Co.'s No. 1 Isences, 330 ft. to N and W lines of 300-ac. tract in C. Land Sur. .....Location.
Gulf Port Oil Co.'s No. 3 Frank Bliss, 1,499 ft. to N line, 350 ft. to E line of 235-ac. tract in J. W. Stevens Sur. No. 406 .....T.D. 2,706 ft; drlg.
Gulf Port Oil Co.'s No. 2 Humphreys (first carried as No. 2 Smith), 330 ft. S and E lines of Sur. 406 .....T.D. 3,434 ft; fighting gas.
Houston Oil Co.'s No. 2 McGregor, 600 ft. W of No. 1....T.D. 4,620 ft; tested 30 bbls. in 15 min.
Texas Coast Oil Co.'s No. 1 Clark-Morgan, 330 ft. from S and E lines of Sur. No. 406 .....Derrick.
Texas Coast Oil Co.'s No. 1 Clark-Morgan Co. .....Rigging up.
Titus & Calloway's No. 1 Lagasse, 330 ft. from N and W lines of E half of Blk. 25 of Shepherd farm lots..Derrick.
Titus & Calloway's No. 1 Ran Morgan, 330 ft. from N and E lines of W 80 acres of E 160 acres of N half of 423 acres of B.S.&F. Sur. No. 403 .....Derrick.

WHITE POINT FIELD—SAN PATRICIO COUNTY

Saxet Oil Co.'s No. 19 Rachel .....T.D. 4,892 ft; drlg.

LOS OLMOS POOL—STARR COUNTY

Austin et al's No. 1 Kelsey Bass, 150 ft. to N and W lines of NW of NW of Sur. 4, Porcions 75, 76, 77, Jurisdiction of Camargo .....Rigging up.
Goodwin & Yantis' No. 1 Kelsey Bass, 150 ft. to S and E lines of SE of NW of Sur. 3, Porcions 75, 76, 77....Rigging up.
Goodwin & Yantis' No. 1 Seabury, 150 ft. from N and E lines of N 80 ac. of Share 5, W portion of Porcion 75, Camargo .....T.D. 934 ft; set csg.; W.O.C.
J. E. Harper & Co.'s No. 1 E. Salinas, 150 ft. to S and E lines of 40-ac. tract in Share 16, Por. 75 .....T.D. 303 ft.; standing.
Hooks & Weaver's No. 1 Kelsey Bass, NE SW Sec. 6, Porcions 75, 76, 77, Camargo .....Moving in rig.
Keck & Keane's No. 2 Kelsey Bass, 150 ft. from N and W lines of NE NE Sec. 6 of Subd. of Porcions 75, 76, 77, Jurisdiction of Camargo .....T.D. 1,026 ft. in gas sand.
Los Olmos Oil & Gas Co.'s No. 42 Kelsey Bass, 450 ft. from E line, 430 ft. from N line of SE of NW Sec. 7, Porcions 75, 76, 77, Camargo .....T.D. 210 ft.; drlg.
Los Olmos Oil & Gas Co.'s No. 44 Kelsey Bass, 200 ft. from E line, 120 ft. from N line of SE of NW Sec. 7, Porcions 75, 76, 77, Camargo .....Spudded in.
Los Olmos Oil & Gas Co.'s No. 45 Kelsey Bass, 500 ft. from E line, 120 ft. from N line of SE NW Sec. 7, Porcions 75, 76, 77, Camargo .....Location.
Los Olmos Oil & Gas Co.'s No. 46 Kelsey Bass, 800 ft. from E line, 120 ft. from N line of SE NW Sec. 7, Porcions 75, 76, 77, Camargo .....Location.
Los Olmos O. & G. Co.'s No. 47 Kelsey Bass, 200 ft. to E line, 105 ft. to S line of NE NW Sur. 7, Por. 75-76-77 .....Location.
Los Olmos O. & G. Co.'s No. 48 Kelsey Bass, 425 ft. to E line, 105 ft. to S line of NE NW Sur. 7, Por. 75-76-77 .....Location.
Los Olmos O. & G. Co.'s No. 49 Kelsey Bass, 650 ft. from E line, 105 ft. to S line of NE NW Sur. 7, Por. 75-76-77 .....Location.
Los Olmos O. & G. Co.'s No. 51 Kelsey Bass, 425 ft. to E line, 330 ft. to S line of NE NW Sur. 7, Por. 75-76-77 .....Location.
Los Olmos O. & G. Co.'s No. 52 Kelsey Bass, 650 ft. to E line, 330 ft. to S line of NE NW Sur. 7, Por. 75-76-77 .....Location.
Los Olmos O. & G. Co.'s No. 53 Kelsey Bass, 250 ft. to E line, 555 ft. to S line of NE NW Sur. 7, Por. 75-76-77 .....Location.
Los Olmos O. & G. Co.'s No. 54 Kelsey Bass, 475 ft. to E line, 555 ft. to S line of NE NW Sur. 7, Por. 75-76-77 .....Location.
Los Olmos O. & G. Co.'s No. 55 Kelsey Bass, 700 ft. to E line, 555 ft. to S line of NE NW Sur. 7, Por. 75-76-77 .....Location.
R. A. Mitchell's No. 1 Kelsey Bass, 150 ft. from S and W lines of NW SE of Sur. 8, Subd. Porcions 75, 76, 77, Jurisdiction of Camargo .....T.D. 212 ft.; standing.
J. P. Moore and C. B. Van Matre's No. 1 Seabury et al, 150 ft. from E line, 750 ft. from S line of Share 5, Subd. of W part of Porcion 75 .....T.D. 305 ft.; standing.
C. L. Sinclair's No. 3 Kelsey Bass, 150 ft. to S line, 1,050 ft. to W line of SW of SW of Sur. 5, Porcions 75, 76, 77 .....T.D. 424 ft.; standing.
Tilden & Jones' No. 1 E. Cuellar, 450 ft. to N line, 750 ft. to E line of Share 11, Porcion 75 .....T.D. 210 ft.; standing.
Tollen, Floyd & Warner's No. 1 Seabury, 450 ft. from S line, 814 ft. from E line of 80-ac. tract in Share 5, W part of Porcion 75 .....T.D. 389 ft.; set csg.
Wells et al's No. 1 Lensgraf, 150 ft. from N and E lines of SW of SW of Sur. 7, Porcions 75, 76, 77, Camargo .....T.D. 387 ft.; being drilled by McCormick.

RIO GRANDE CITY POOL—STARR COUNTY

Mundy and others' No. 1 Salinas, 190 ft. to S and W lines of Blk. 12, Share C-38, Porcions 80 and 81, Camargo .....T.D. 1,460 ft.; standing.

LAUREL POOL—WEBB COUNTY

Dyck Oil Co.'s No. 2 Garcia & Villareal, 330 ft. W of No. 1 .....T.D. 2,200 ft; testing.
L. M. Kaiser's No. 1 Garcia & Villareal, 150 ft. to N and W lines of Blk. 2, Sur. 1,099 .....T.D. 1,000 ft; drlg.
O. W. William's No. 1 Garcia & Villareal, 150 ft. to N and W lines of SE NE Sur. 1,110 .....T.D. 2,290 ft; drlg.
Magnolia Pet. Co.'s No. 1 Garcia & Villareal, 150 ft. from N and W lines of NW NE of Sur. 1,100.....Derrick.
Newton Drilling Co.'s No. 1 A. Garcia, 2,550 ft. from S line, 2,340 ft. from W line of Sur. No. 52, 2 miles SW of Carolina Texas Field .....T.D. 2,080 ft.; standing.
Reward Oil Co., Sur. 768 .....Location, 1 mi. SW of Dyck.
Reward Oil Co.'s No. 1 Laurel, 345 ft. to S and E lines of Blk. 15, Sur. 271 .....T.D. 2,199 ft; comp. 100 bbls.
Reward Oil Co.'s No. 1 Caltex Royalty Co., 150 ft. from N and W lines of Blk. 24, Sur. 768.....T.D. 1,600 ft; drlg.
Reward Oil Co.'s No. 1 Garcia & Villareal Co., 330 ft. from N and W lines of NW SE of Sur. 1,100.....Location.
Sal-Mar Oil Corp.'s No. 1 Vela, 660 ft. from NW and SW lines of Blk. 16, Sur. No. 1,011 .....Location.
Smidon Oil & Gas Co.'s No. 1 Vela, 450 ft. to S line, 150 ft. to S line of Blk. 14, Sur. 263 .....T.D. 2,920 ft; drlg.
Smith & Story's (Wolcott & Rehmet) No. 1 Sarah Lloyd, 600 ft. from W line, 150 ft. from S line of SW SE (Blk. 14), Sur. 23 .....Derrick.
South Texas Oil Co.'s No. 1 Garcia & Gates, Sur. 272....Location.
South Texas Oil Co.'s No. 1 Garcia & Villareal, Sur. 1,099..Location.
South Texas Oil Co.'s No. 5 Laurel, Blk. 9, Sur. 270 ....T.D. 500 ft.; drlg.
Geo. E. Smith's No. 1 Garcia & Villareal, NW cor. of Sec. 11, Sur. 338 .....Location.

MOCA POOL—WEBB COUNTY

Moca Oil Co.'s No. 2 Duval County Ranch Co., 1,650 ft. to N line, 638 ft. to W line of Blk. 22, Share 3, Zapata County school lands .....T.D. 100 ft; drlg.

CAROLINA-TEXAS POOL—WEBB COUNTY

Foster Barnsley's No. 2-F Webster, 165 ft. from N and E lines of SE of NW of Sur. No. 484 .....T.D. 2,538 ft.; rigging up to deepen.

ESCOBAS POOL ZAPATA COUNTY

The Texas Co.'s No. 16 Measles, 3,764 ft. to SE lines, 19,440 ft. to SW lines, Cerrito Blanco grant .....T.D. 1,240 ft; comp. 50 bbls.

# FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

## Water Leaking Into Casingheads Threatens Life of His Wells

Some of my wells are going to be permanently injured or destroyed unless I find some way of meeting a problem that results from floods in this district. In times of high water the dirty water from a nearby stream comes up around the wells and leaks into the casingheads. After this happens there is a big drop in production. All the wells are small ones. I clean them out after the high water subsides, but that doesn't seem to help much. I would be very grateful for any suggestion as to how I might get around this difficulty.—G. E. S.

You undoubtedly have a serious problem to contend with and every effort should be made so to equip your wells as to prevent river flood water from entering them. If the wells are properly cased and the surface string surrounded with cement in the proper manner it should be possible to cap the casing and shut in the tubing so that water and silt cannot enter the hole.

If the wells are old and the casing leaky it may be that the cost of repairs will be too great. It should be possible at small expense to excavate around the surface string and pour cement to prevent water pouring into the hole because ground water will not sink very far into the ground and carry silt with it. If there are sand beds near your property it is suggested that you haul loads of it and dump around the well in a thick bed to form a filter through which the silt will not pass.

A sand filter is a common form of water cleansing device and if clean sand is packed in around the well head and spread out on the ground around the well it should remove silt commonly carried with flood waters and before it can enter and damage your property.

Dikes might be so placed around your wells or across your property as to create change in direction and velocity of currents. By reducing velocity of current the silt and solid matter will settle out of water and even though the water itself might penetrate into your well the great damage caused by carrying fine material to the bottom of the hole would be largely reduced.

If silt has already been carried into the wells it is suggested that the sands be washed, much as rotary wells are washed into production. With the tubing in the hole water can be pumped down against the face of the sand and returned upward between tubing and casing. If the well is equipped for pumping it would be necessary to pull the tubing to remove the working barrel and in its place a length of tubing full of holes and capped at the bottom might be substituted. This perforated joint will act as a jet washer and if the holes are so drilled that the water will leave them tangent to the circumference of the pipe a rotary motion can be created in the bottom of the well which would tend to scour the sand face and remove the mud.

If washing with clear water does not bring about the desired results and free the sand face of foreign material you might try the method outlined in an article in the July 9, 1931, issue of The Oil and Gas Journal, entitled, "New Process for Cleaning Out Wells." With this process acid is used which will dissolve paraffin on the walls of the hole and heat can be created at the bottom of the hole tending further to remove congealed oil and paraffin.

As a last resort the well can be shot and if this is done it is suggested that sand tamping be used above the shot as the results will be more satisfactory because by this method the effect of the charge of nitroglycerin is directed against the sand face and not up the hole.

This department is conducted in order that men connected with the drilling, producing or transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

## Relative Merits of Concrete and Oiled Roads Cause Debate

**There is a movement on in this district to have several highways paved with concrete and a good many of the leading oil operators who use the roads are backing the movement. Some of us are inclined to think that it would be much more economical to oil the roads. Some of the roads are oiled already and they make very satisfactory roads. Can you give me some figures on the relative cost of oiled roads as compared with concrete? Also can you tell me which is the more economical in the long run?—N. N. T.**

There is no question of course as to the correctness of the statement that the initial cost of concrete roads is many times greater than that of oiled roads. No figures are at hand to indicate the relative expense of the two kinds of road over a long term of years. It seems safe to say, however, that the oiled road, although a vast improvement over the ordinary dirt road, is after all an expedient which offers immense but not permanent relief from the irritations and predicaments familiar to the driver of an automobile or truck who must use an unimproved dirt road. Astounding lack of skill sometimes is shown in oiling a road and putting it into use, with the result that it is shunned by motorists for weeks after application of the oil. Without knowing the method by which it is proposed to finance concrete roads in your district or the condition of your county or state treasury, it does not seem wise to try to offer specific advice in your case. Sooner or later you probably all will want concrete roads. To what extent it would be wise to postpone getting them, using oiled roads in the meantime, local conditions should determine.

The Oklahoma Highway Commission in 1931 completed 14½ miles of oiled road between Geary and El Reno for test purposes. The road cost $1,635 per mile and 11 different kinds of Oklahoma oil were used with a view of finding out which are best.

The commission constructed an oil-gravel mat 1½ inches thick and 20 feet wide. Oil was also placed on the shoulders so that the 30-foot roadbed is given an oiled roof which affords drainage. As long as this condition is maintained and the surface is kept smooth, traffic will have the advantages of a paved road.

The state also built immediately east of this oil road, 8.4 miles of concrete slab which cost $187,196.15. One mile of the concrete road cost as much as 13½ miles of the oiled road. It is pointed out that while the concrete road will have the lower maintenance cost through a term of years, the investment in the concrete road would have an interest charge of $1,334.52 per mile at 6 per cent. This is calculated to be enough money to maintain 5 miles of the oiled road for a year.

In building the oil road the cost of the 14½ miles was as follows:

| | |
|---|---|
| Oil | $4,896 |
| Freight | 3,506 |
| Local sand and gravel | 11,022 |
| Labor and equipment | 4,346 |
| Total | $23,770 |

## Why Was It Called That?

FIXER

Among employes of the larger oil companies is a man whose duty it is to settle claims against the company, avoiding needless litigation. This person is called a fixer because he adjusts, or fixes, these claims. The recent monthly statement of a fixer for one major company showed he had spent $3,885 in settling minor claims ranging from "one rose bush, 15 cents," to "cleaning out water well, $103.15." Other claims were for damage to grass and shrubbery, oil spots on front porch, cleaning a woman's dress, repair of fence, digging ditch to prevent overflow in a chicken yard, doctor's fee for dressing a burned finger, and "one pint of liquor for traffic officer."

## More on the Testing of Pipe by Applying Hydraulic Pressure

Here is another interesting letter on the subject of testing old casing by water pressure. It comes from W. D. Stoughton, formerly superintendent of production in Central Ohio for the Pure Oil Co., and is used with his permission.

"I was interested in articles which appeared in your issues of October 20 and December 8 in regard to testing pipe by hydraulic pressure. For several years we have been testing all second-hand 5⅞-inch, 17-pound casing with water pressure.

"In Central Ohio this string is used to shut off what is called the 'Big Water' in the Niagara lime. The length of this string is approximately 2,800 to 3,400 feet, according to location.

"Our outfit consists of the following: 5⅞-inch cap, 5⅞-inch plug, 1½-horsepower gas engine, low-pressure pump with 1-inch discharge, high-pressure hand test pump with three-quarters-inch steel plunger, 1,000-pound pressure gauge.

"The gas engine and low-pressure pump are bolted to a plank and connected by belt. The pump will deliver up to 100 pounds pressure. Then with a few strokes of the test pump the pressure inside the pipe will be raised to 600 or 800 pounds or to any pressure you may desire.

"The thread ends of the cap and plug are casehardened. This retards wear of the threads and makes it unnecessary to use taps and dies in cleaning and straightening any damaged threads. There is a wrench square extending from the end of the cap and plug.

"A hole for 1-inch pipe is drilled through the end of the plug. Then the following, in order, are connected to the plug: One-inch nipple, 1x¾x1-inch tee, 1-inch nipple, 1-inch tee for gauge connection, 1-inch nipple, high-pressure stop, 1-inch nipple with ground joint lip union. This union is for the connection to the low-pressure pump, which can be made with 1-inch pipe or a metal-bound flexible hose of any desirable length so that the low-pressure pump can be placed as near the water supply as possible.

"A three-quarters-inch nipple is screwed into the 1x¾x1-inch tee, with a three-quarters-inch high-pressure stop, then a three-quarters-inch nipple with lip union to connect to the high-pressure test pump.

"A little beyond where the thread stops in the cap a quarter-inch petcock should be placed to let out the compressed air caused by the first 100 pounds pressure of water.

"When the pressure shows 100 pounds on the gauge, shut down the engine or shift the belt to the loose pulley on the pump and close the 1-inch stop. Then use the high-pressure test pump until the gauge shows the desired pressure. Then close the three-quarters-inch stop. The pipe should be hammered lightly now to dislodge any scale or rust that is temporarily hiding leaks.

"To empty the pipe disconnect the 1-inch union and open the 1-inch stop.

"If water is scarce a hose or pipe connection can be made where the pump connection is taken off. The water can be run into a 5 or 6-bbl. steel tank and used over again.

"This outfit can be hauled on a three-quarters-ton truck, and casing can be tested at the well or at any location desired where there is water. The system can be used for any size pipe by having the right size caps and plugs.

"Most of the leaks are found in threads and couplings. It takes an average of five minutes to test a 5⅞-inch joint."

# PERSONAL PARAGRAPHS

C. H. Lieb, president of the Carter Oil Company, and Mrs. Lieb, have returned to their home in Tulsa from a trip to New York.

* * *

R. C. Hall, with The Texas Company at Fort Worth, Tex., was recently re-elected secretary-treasurer of the Junior Chamber of Commerce of that city.

* * *

Harry Connelly, with the Sinclair Prairie Oil Company, has been moved from New Orleans, La., to the Fort Worth, Tex., division offices of the company.

* * *

J. W. Gilliland, formerly of Tulsa, with Mike Liles and P. Middleton, have organized the Gilliland Refining Company of Gladewater, Gregg County, East Texas.

* * *

C. B. Wrightsman, president of the Standard Oil Company of Kansas, Tulsa, flew to Houston, Tex., to direct personally efforts to control his company's wild well in the Conroe Field.

* * *

John L. Poor, chief chemist at the Chanute, Kans., refinery of Altitude Petroleum Corporation, has resigned to become associated with the Belgo Petroleum Corporation of Brussels, Belgium.

* * *

Sam H. Elliston, Jr., with the Pure Oil Company, Fort Worth, Tex., was recently married to Miss Margaret Newsom, daughter of Mr. and Mrs. W. L. Newsom of that city.

* * *

George P. Dickey, president of the Dickey Oil Company, of Wichita, Kans., has purchased an airplane and is now using it as his principal mode of transportation, visiting his Oklahoma and Kansas properties.

* * *

The Continental Oil Company has opened a district office at Houston, Tex., transferring Tom Madgett, land man; R. B. Paxson, geologist, and I. H. Stein, scout, to that district. The latter was moved from the Panhandle district.

* * *

G. M. Vandaveer, superintendent for the Stanolind Pipe Line Company, with Casper, Wyo., headquarters, has returned to his home there after having been called to Neodesha, Kans., by the illness and death of his father, D. A. Vandaveer.

* * *

Hale B. Soyster, chief of the oil and gas leasing division of the U. S. Geological Survey, Washington, D. C., was in Tulsa last week on his way back to his headquarters after a trip to California. He planned to visit Oklahoma City offices of the survey after leaving Tulsa.

* * *

A. R. Wilson, division manager; H. H. Stewart, geologist; L. J. Daly, production superintendent, and B. A. LaGarde, all of The Texas Company, with Denver, Colo., offices, were in Riverton, Wyo., watching developments in the company's No. 2 State-Ridgway, at Alkali Butte.

* * *

Dr. Gustav Egloff, of Universal Oil Products Company, was a speaker on January 6, at Iowa State University, Iowa City. In the afternoon, Doctor Egloff spoke before the chemical engineering students and faculty, and at dinner, in the evening, he discussed "Modern Gasoline for Modern Motor Cars."

* * *

R. F. Imbt, San Angelo, Tex., consulting geologist, was elected president of the West Texas Geological Society at San Angelo last week. He succeeds A. L. Ackers, geologist for the Stanolind Oil & Gas Company. Charles Bertrees, with the Continental Oil Company at Midland, Tex., was elected vice president, succeeding W. W. Patrick of The Texas Company. Miss Minnette Ries, palentologist for the Phillips Petroleum Company at San Angelo, was re-elected secretary-treasurer.

Walter H. Jeffery, Toledo, Ohio, was in Tulsa a short time early this week calling on friends.

* * *

Howard (Tarz) Marsh, scout and field man for the Carter Oil Company in Kansas, is reported as recovering from a severe attack of influenza.

* * *

D. S. Picard, who was connected with the Arco Company for a number of years, has been made assistant vice president of the St. Louis Surfacer & Paint Company of St. Louis, Mo., and will make his headquarters in Dallas, Tex.

* * *

J. G. Nation, of the Standard Oil Company of Venezuela, recently sailed from New York for Venezuela to resume his duties as division superintendent of production at Caripito, Venezuela, after having spent about a month in the United States.

## Men of the Industry

### SETH B. HUNT

Seth B. Hunt, vice president and member of the board of directors of the Standard Oil Company (New Jersey), has the distinction of having been associated with all of the important phases of the oil business during his 38 years with the company.

Born in 1871, Mr. Hunt's first job with the organization was as a tank wagon driver for the Standard Oil Company of New York in Providence, R. I., in 1894. He remained in this position for two years and then was transferred to Buffalo, N. Y. In 1909 he joined the Standard Oil Company (New Jersey) and he has remained with the parent company since.

Mr. Hunt's rise has taken him through the positions of purchasing agent, assistant refinery manager, refinery manager, and chairman of the company's manufacturing committee.

In 1914 Mr. Hunt was elected to the board of directors of the Standard Oil Company (New Jersey) as director in charge of production. Three years later he was made treasurer of the company and in 1919 he was elected vice president.

In 1925 the late George H. Jones, vice president, who had succeeded Mr. Hunt as treasurer, was elevated to the post of chairman of the board, and Mr. Hunt at that time reassumed the duties of treasurer in addition to his office as vice president, and he has continued in that dual capacity.

R. R. Porterfield is in charge of the new district offices of the Devonian Oil Company at Midland, Tex.

* * *

Howard Coonley, president of the Walworth Company, has become president of the American Standards Association.

* * *

M. P. Hare, Dallas, Tex., has been appointed sales representative for the Shand & Jurs Sales Company in that territory.

* * *

R. P. Mase, of Burrell-Mase Engineering Company of Pittsburgh, Pa., has established Mid-Continent offices in Tulsa.

* * *

R. E. Wertz, of Amarillo, Tex., general manager of the Amarillo Gas Company, was looking after personal business in Cheyenne, Wyo., recently.

* * *

Louis Franklin, geologist, Wichita Falls, Tex., has been spending several days on the Gulf Coast. He expects to move to Houston in the near future.

* * *

John Nicklos, assistant division superintendent for the Continental Oil Company, Fort Worth, Tex., is convalescing from pneumonia, at Cook Memorial Hospital.

* * *

John W. Wallace, of Tulsa, in charge of sales for The Texas Company in the Tulsa territory, has been made a colonel on the staff of Governor Ruby Laffoon of Kentucky. The Wallace and Laffoon families have been friends for many years.

* * *

R. H. Main, who has been superintendent of the Continental Oil Company refinery at Sapulpa, Okla., has been transferred to Glenrock, Wyo., where he is to become assistant superintendent. He and his family have recently arrived in the Wyoming town.

* * *

James J. Maguire has been elected president of Socony-Vacuum Transportation Company, marine subsidiary of Socony-Vacuum corporation. He was formerly vice president of the company. Mr. Maguire succeeds George D. Ali, retired. Mr. Ali will continue as a director.

* * *

Walter W. Fleming, of Tulsa, vice president of the Mid-Kansas Oil & Gas Company, attended the inauguration of Governor Alfred M. Landon of Kansas. Mr. Fleming and Governor Landon are brothers-in-law. Governor Landon has long been an oil producer in Kansas and Oklahoma.

* * *

J. A. Cummin, district manager for Dowell, Inc., Midland, Mich., has been transferred to Breckenridge, Tex., in the Ranger or West Central Texas district, where the company is doing considerable work in acid treating wells for companies operating in that district. The company is also opening an office in West Texas.

* * *

H. J. Fenton, of Wichita Falls, Tex., has been appointed district manager for the Bradley Supply Company, in charge of the territory covering southern Oklahoma and all of Texas. For the past 14 years Mr. Fenton has been representative of the Lone Star Tool Company. Prior to that time he was manager for the Atlas Supply Company at Wichita Falls and Muskogee, Okla.

* * *

C. D. Buffett, who was in charge of operations for the Midwest Refining Company in the Salt Creek Field, has been transferred to Denver, Colo., where he will be division superintendent for the Rocky Mountain division of the Stanolind Oil & Gas Company. He will take over the local duties of George H. Jaques, vice president of the Midwest company before its dissolution, who goes to the Stanolind headquarters at Tulsa. Paul G. Weidner, head of the gas department in the Rocky Mountain district, also has been transferred to Tulsa.

IN JUNE OF THIS YEAR
there will be opened in Chicago an exposition dedicated to the progress of the present century. ● In what field is this progress better exemplified than in the oil industry? ● From a product originally used as an illuminant and a "Cure-all" medicine, petroleum has in thirty-five years made remarkable progress, providing heat for homes, lubrication for countless wheels of industrial machinery, and power for 26,000,000 automobiles and airplanes in America alone. ● The oil industry has met the demands of progress by constantly improving its methods all along the line. Science has taken the place of chance. ● That Halliburton has been privileged to contribute to the progress of the oil industry and, therefore, to the progress of the century, is genuine incentive to continue its research and maintain in all active oil fields a single high standard of service .... a worthwhile assignment, honestly executed.
HALLIBURTON
OIL WELL CEMENTING CO.
Duncan, Oklahoma

# NATURAL GAS DEVELOPMENTS

## Re-design of High Pressure Gas Metering and Pressure Regulating Stations

By W. J. Gray
Calgary, Alberta, Canada*

For a number of years the gas industry has been looking for new ways of building high pressure gas metering and pressure regulating stations, with a view to cutting down cost of construction and maintenance. The renewal and replacement of a meter or pressure regulator itself was a comparatively easy matter, but to do it without causing gas leaks in the remainder of the structure was very difficult. Threads on the nipples, always the weakest place in the structure, become rusted and the least jar caused leaks, and in some cases even breakage. The use of flanges on all valves and fittings alleviated the condition to a certain extent, but even flanges screwed on to the ends of nipples did not materially reduce maintenance costs.

The advent of arc-welding brought about many changes. Flanges with necks formed integral can now be used, instead of the old threaded type, with short pieces of pipe welded in between them. Fittings, such as crosses, tees, and ells are now made with pieces of the pipe itself instead of the heavy types previously used. Threaded joints are almost eliminated, and the danger of leakage and breakage when changing meters or regulators has become negligible.

The station is neater and more compact, the work of fabricating requires fewer men and is less laborious, by reason of the decrease in weight. Installation, usually in cramped quarters, does not require any heavy pipe tongs or large wrenches, with the accompanying danger of buckling the pipe, and the reduction in the number of men employed results in less lost labor.

The attached drawing shows an installation as designed for a plant with two meters set in tandem and two different outlet pressures were required. The gas inlet pressure varies from 30 to 36 pounds and the outlet pressure from the 6-inch regulator is 1 pound while the outlet pressure from the 4-inch regulator is 8 ounces.

The accompanying comparisons of cost will illustrate the various savings which result from the redesign and use of arc-welding:

*A paper submitted for the second Lincoln arc-welding prize competition, sponsored by the Lincoln Electric Co., Cleveland, Ohio.

COST DATA

| | |
|---|---|
| Table A—Fittings required in both designs: | |
| 5—2-inch flanged gate valves | $46.00 |
| 6—4-inch flanged gate valves | 102.06 |
| 2—6-inch flanged gate valves | 54.40 |
| 1—6-inch low pressure regulator | 226.60 |
| 1—4-inch low pressure regulator | 178.43 |
| 2 high pressure gas meters | 1,000.00 |
| 2—2"x12" sleeves | 5.40 |
| Total | $1,612.91 |

MATERIALS REQUIRED IN "ORIGINAL DESIGN"

| | | |
|---|---|---|
| Fittings as listed in "Table A" | | $1,612.91 |
| Other materials: | | |
| 10 ft. 2-inch pipe | $3.00 | |
| 6—2"x12" nipples | 1.92 | |
| 1—2"x18" nipple | .46 | |
| 2—4"x8" nipples | 1.24 | |
| 2—4"x10" nipples | 1.72 | |
| 6—4"x12" nipples | 5.76 | |
| 2—4"x14" nipples | 2.00 | |
| 1—6"x8 nipple | 1.30 | |
| 4—6"x12" nipples | 6.00 | |
| 1—6"x15" nipple | 1.65 | |
| 1—6"x21" nipple | 2.05 | |
| 1—8"x24" nipple | 2.50 | |
| 1—8"x30" nipple | 3.30 | |
| 1—2-inch Tee | 1.12 | |
| 1—6-inch Tee | 6.80 | |
| 3—6"x6"x2" Tees | 16.50 | |
| 1—4"x4"x8" Tee | 11.00 | |
| 1—4"x6"x8" Tee | 12.00 | |
| 1—8"x8"x2"x2" Cross | 18.50 | |
| 1—6-inch Ell | 2.75 | |
| 1—4-inch Ell | 2.50 | |
| 2—6"x4 Ells | 8.30 | |
| 5 prs. 2-inch companion flanges | 7.50 | |
| 7 prs. 4-inch companion flanges | 42.84 | |
| 3 prs. 6-inch companion flanges | 19.50 | |
| | $183.31 | 183.31 |
| Total material cost | | $1,796.22 |
| Labor, fitting & assembling | $8.00 | |
| Labor, installing in building | 32.00 | 130.00 |
| Total cost assembling and installing | | $1,926.22 |

MATERIALS REQUIRED IN "NEW DESIGN"

| | | |
|---|---|---|
| Fittings as listed in "Table A" | | $1,612.91 |
| Other materials: | | |
| 2 pieces 8-in. boiler plate | $1.50 | |
| 6 pieces 8-in. P.E. pipe | 7.05 | |
| 15 ft. 6-in. pipe | 13.05 | |
| 14 ft. 4-in. pipe | 9.24 | |
| 12 ft. 2-in. pipe | 3.60 | |
| 5 prs. 2-in. welding neck flanges | 37.00 | |
| 7 prs. 4-in. welding neck flanges | 68.60 | |
| 3 prs. 6-in. welding neck flanges | 39.60 | |
| | $169.67 | 169.67 |
| Total material cost | | $1,782.58 |
| Welding material and labor | 36.00 | |
| Miscellaneous labor | 13.00 | |
| Installing in place | 18.00 | 67.00 |
| Total cost material and labor | | $1,849.58 |

COMPARATIVE COSTS CONSTRUCTION

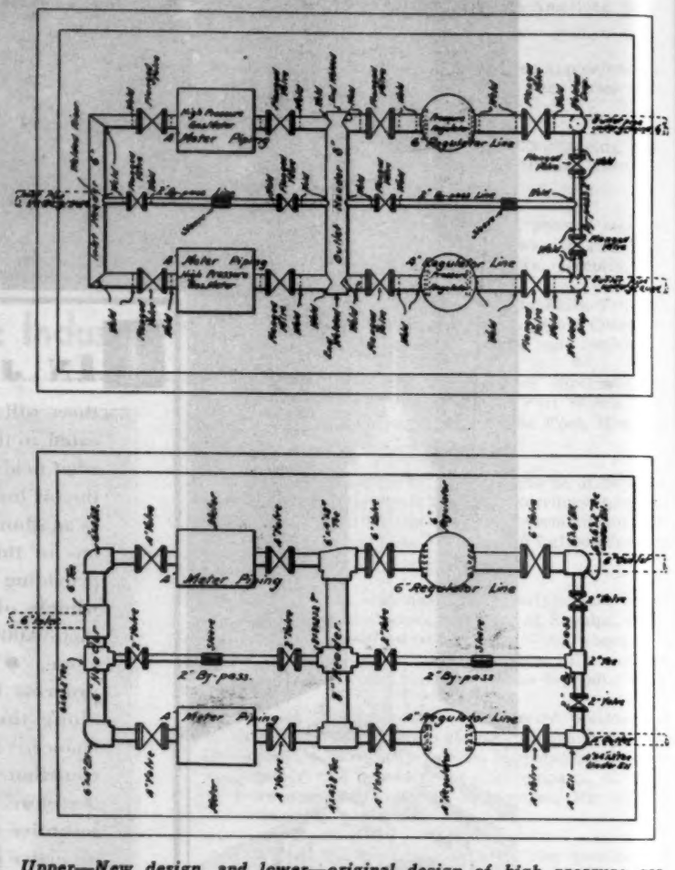
| | Original design | New design | Gross saving new over original | Pct. saving of new design over original |
|---|---|---|---|---|
| Fittings required as Table A | $1,612.91 | $1,612.91 | $0.00 | 0% |
| Other materials | 183.31 | 169.67 | 13.64 | 7.4% |
| Total materials | $1,796.22 | $1,782.58 | $13.64 | |
| Labor fittings and assembling | 88.00 | *49.00 | 49.00 | 56.0% |
| Labor installing in building | 32.00 | 18.00 | 14.00 | 43.8% |
| Total costs | $1,926.22 | $1,849.58 | $76.64 | 3.8% |

*This item includes welding materials.

COMPARATIVE COSTS OF ANNUAL MAINTENANCE

| | Old design | New design | Gross saving new over old design | Pct. saving of new design over old |
|---|---|---|---|---|
| Replacing meter every five years including retesting all piping (over fifth of total cost) | $5.00 | $4.00 | $1.00 | 20% |
| Cleaning regulator and testing pipe each year | 16.00 | 12.00 | 4.00 | 25% |
| Finding and repairing piping, stopping leaks, etc., during year | 18.00 | 5.00 | 13.00 | 72.2% |
| Total | $39.00 | $21.00 | $18.00 | 46.2% |

From the foregoing it will be seen that by adopting arc-welding in the gas industry, in other than long gas lines, great savings can be effected not only in first cost but also in maintenance, and in addition the weak spots so common in the old methods using screw joints are eliminated thereby decreasing the hazards of gas leaks and resulting in greater safety to the public.




*Upper—New design, and lower—original design of high pressure gas metering and pressure regulating stations*

## Gross Receipts Tax Held to Be Illegal in Montana

HELENA, Mont., Jan. 14.—A provision for a gross receipts tax in a franchise by the city of Baker to the Montana Petroleum Co. for natural gas service has been declared inoperative by the Public Service Commission on the ground that it discriminates against users of the gas service.

The franchise provided for the payment to the city of 1 per cent if gross revenues were from $10,000 to $15,000; 2 per cent if revenues totaled $15,000 to $20,000; 3 per cent for revenues of $20,000 to $25,000, and 5 per cent for receipts in excess of $25,000.

The commission held that "the payment of the gross receipts tax by the Montana Petroleum Co. to the city of Baker will result in unlawful discrimination against consumers of natural gas living within the corporate limits of the city of Baker and in undue preference to taxpaying nonconsumers living or owning property within the city limits of the city of Baker.

"The proviso above quoted will therefore be declared inoperative and the utility directed to not pay said gross receipts tax."

The commission explained that the burden of taxes paid by a public utility is ultimately borne by consumers of the service.

## Lone Star Hearing to Be Resumed at Fort Worth

FORT WORTH, Tex., Jan. 16.—The State Railroad Commission's hearing on gate rates charged by the Lone Star Gas Co. will be resumed in Fort Worth January 20.

The hearing was recessed late in November after a three-week session during which the company submitted its testimony and more than 100 exhibits in support of its valuation claim of more than $70,000,000 for Texas and Oklahoma properties.

The Fort Worth hearing was recessed to afford Assistant State Attorney General Hooper and the commission's engineers opportunity to examine the testimony of company witnesses and the exhibits submitted. Cross-examination of the utility's witnesses will be begun with the resumption of the hearing.

The cross-examination and redirect questioning of utility witnesses is expected to require nearly as long as the direct examination. Submission of evidence in support of the appraisal of Hawley, Freese and Nichols will be started after the redirect examination of company's witnesses.

# TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

## Detailed Specifications for Lubricants Usually Not Advisable

**We are considering specifications for automobile lubricating oils and are enclosing two lists covering ten oils. We would ask your frank criticism of these.—E. V. N.**

It is a difficult matter to discuss specifications for lubricating oils without having a knowledge of the conditions under which they are to be used. However, some general observations may be of help. The two lists contain specifications for ten oils, all under the general quality specification that the oil furnished shall be a petroleum oil free from water, acid, soap, resin and all substances not derived from petroleum. The other items range as follows: Gravity 25-30; Flash 420°—500°F.; Fire 465°—560°; Vis. at 100°F. 225—1625; Vis. at 210°F. 50—112; Pour 0° 20°F.; Carbon residue 0.6—1.6%; Color 5-8.

It has been my experience that minutely detailed specifications are seldom necessary and are frequently unnecessarily expensive to the purchaser. The general quality specification is good but there is no apparent reason to specify a flash, fire, and gravity. A minimum flash of 150°F. might be used simply as a safety measure. I would omit color entirely. When two viscosity requirements are to be met it may mean that purchases will have to be confined to a few sources. Without definite information as to service I am inclined to suppose that you are buying too many oils. Would not three oils meet all your needs? I note that these oils are very close to what are known as S.A.E. lubricating oils, from Nos. 20 to 60 inclusive; so it should be sufficient to give one viscosity, either at 100° or 210°, under the proper S.A.E. number then aou what is desired in the way of pour test and carbon residue.

The reason that few consumers find it necessary to pay attention to gravity, flash, fire and color is that these properties are more or less fixed by the refining process required to obtain an oil of the stated viscosity, pour test and carbon residue. When an oil is poured into the crankcase of an automobile color, flash and gravity are certainly changed. Carbon residue is important as indicating high quality and good refining. The pourpoint is related to easy starting and movement of the oil at low temperatures. Viscosity is the one important distinctive property of a lubricating oil. Without it the liquid would be of no value, and all that is essential to obtain a good oil is to enforce such additional specifications as have been mentioned.

## Flash Point of Motor Oil Has no Relation to Usefulness

**Supposing I desire to use a 250 viscosity oil at 130° in my crankcase and can obtain this oil in two grades meeting this viscosity requirement; one oil having a 380° flash point and the other with a 420° flash, with other characteristics equal. Would not the oil of 420° flash stand up better under service?—L. G. L.**

The flash point of a petroleum product represents the temperature to which it must be heated for it to evolve enough vapors to momentarily ignite upon the introduction of an electric spark or a very small flame. This temperature is important as a control against a possible explosion and fire hazard for the inspection of such products as naphtha, kerosene and domestic fuel oils.

Flash points of the several liquid petroleum products rise with decreasing volatility and increasing gravity or weight. The lubricating oils volatilize only at elevated temperatures and are, as a class, next to the heaviest of the liquid products obtained from petroleum, so must have relatively high flash points. These can have no relation to what could ordinarily be considered as a fire hazard.

The flash point of a lubricating oil has nothing to do with its usefulness as a motor lubricant, but it may be of some value for checking the general characteristics. The refiner observes the flash point during the process of reducing the oil in the still, as a simple and convenient means of control. Sometimes the purchaser may make use of the test, which with others, will enable him to identify an oil or to be certain that a shipment conforms to an oil which has been found to be satisfactory in some particular service.

A difference of 40° in the flashing temperatures of two oils, as mentioned in the question, is not enough, when all other properties are the same, to be considered and is no indication of relative stability under the conditions which the oils are to be used.

## Diesel-electric Locomotives Show Low Operating Expense

**Is it possible for you to give a short statement showing a comparison of the operating costs of Diesel and steam locomotives? I shall appreciate any information you can furnish on this subject.—C. H. L.**

Considerable information is available concerning the relative costs of the different fuels used for power development, including the operation of locomotives and trains. Data on the subject have been published in the several engineering magazines and texts relating to fuel. An announcement of the costs covering the operation of the Diesel-electric locomotives, which have been in use on the Buenos Aires Great Southern Railway for over three years, was made at Newcastle, England, November 21, 1932, on the occasion of a demonstration with four units for the South American service.

In addition to small power units of 400 and 600 b.h.p. this company has had in operation two 1,200 b.h.p. Diesel trains, which have covered some 163,000 miles. It is the successful operation of these trains in regular service which has led the company to purchase the larger 1,700 b.h.p. units demonstrated.

The two 1,200 b.h.p. trains are in regular service from Buenos Aires, running a distance of 14 miles with 11 stops. The average fuel consumption per train mile on this service is 9.4 lb., or a fuel cost of 6 cents per train mile, which compares with a steam locomotive fuel cost of 17.6 cents for the same service. The engines of one of these units have recently been dismantled after 72,000 miles and were found to be in very satisfactory condition, the wear parts being well within the limits expected.

Each train is made up as a multiple-unit set consisting of the Diesel mobile power-house and five 80-ft. coaches having accommodation for 544 first and second class passengers, with postal and luggage compartments. The gross weight of the train is 317 tons.

The Diesel-electric system of traction consists essentially of installing oil-driven electric power generators on the trains themselves, instead of drawing power from electrified overhead wires or from third rails supplied from stationary power plants. The oil-electric locomotive carries its own power station which drives electric motors on the locomotive axles, or, as in the case of ordinary electric trains, above the trucks of the coaches. Thus the drive is transmitted uniformly along the train and greatly improved acceleration is secured.

## Treating Cement for the Storage of Gasoline

**Is there any substance that can be applied to concrete that renders it practically impervious to gasoline? I am considering construction of storage space for a large quantity of gasoline and due to the irregular area in which the storage is to be made steel tanks will not serve. I will appreciate your suggestions of known substances with which I should experiment.—J. B.**

There are numerous substances and methods used for the water-proofing of cement, several of which may be used for gasoline storage tanks. It is essential that a rich cement mixture be prepared, and that the workmanship be of the very highest order, and the pouring of the cement mixture should be continuous until the job is completed.

Some tanks are made impervious to water and petroleum liquids by the addition of powdered substances to the dry cement. A fine clay, such as fuller's earth and contact clay, which has not been used, may be mixed with the cement to the extent of from three to ten per cent. Hydrated lime and powdered sodium silicate are also suggested for this purpose. Powdered lime soap, together with alum and hydrated lime, is used.

One of the best methods, which has been successful for water-proofing large reservoirs, is the Sylvester process. This makes use of water solutions, which are applied to the surface of the finished work, of alum and soap. The process requires alternate application of the two solutions, such as first and third, etc. coats of the soap solution and then second and fourth, etc. of the alum solution. The soap solution is made to contain three-fourths of a pound of castile soap to the gallon of water; the alum solution contains one pound of alum in eight gallons of water.

The soap and alum should be in complete solution before applying to the clean dry surface. The soap solution should be heated to the boiling point and then quickly applied with a flat brush. It is important to prevent any froth from reaching the cement, for the bubbles will break and leave an untreated surface exposed. Allow the first coat to remain on 24 hours or until it is dry and hard. The atmospheric temperature at the time of the application should not be below 50°F.

When the soap coating is dry, the alum solution, temperature between 60° and 70°, should be brushed on thoroughly over the first coat and let remain for 24 hours. Next apply the hot soap solution and let it stand for 24 hours before giving the second coat of the alum solution. Repeat these applications with at least two coats of each solution.

## High Sulphur Crudes Not Suitable for Making Acid

**In making sulphuric acid sulphur fumes are required so I would like to ask if by burning a high sulphur oil, such as Upton County oil, when they are roasting iron pyrites would there not be a considerable saving to the manufacturers and at the same time tend to raise the price of high sulphur oils?—R. H. M.**

The percentage of sulphur in Upton County, Texas, crude runs around 2 per cent, and while this quantity may be considered high as a contaminating element, requiring additional expense over that necessary for the refining of the normal oil, it is entirely too low to be considered as a possible source of sulphur for the manufacture of sulphuric acid.

The chief sources of sulphur necessary for the manufacture of sulphuric acid are brimstone, iron pyrites and the gases produced when roating sulphide ores. Iron pyrites and sulphur (brimstone) both burn in air when heated to the kindling point and when once ignited no additional heat is required to continue the combustion. The required reaction is that the sulphur must combine with the oxygen of the air to form sulphur dioxide and this combines with some additional oxygen and water to form the acid.

The union of water and sulphur dioxide to form sulphurous acid is exceedingly rapid but the next step to add on another atom of oxygen is extremely slow. However, the use of nitrous anhydride as an oxygen carrier makes it possible to produce the acid with considerable rapidity. This brief mention of the essential conditions for the preparation of sulphur acid will serve to explain that high sulphur petroleum would introduce complications very difficult to control. The vapors of petroleum when mixed with air are explosive and the burning of the oil would consume oxygen required for the process. The only use that could be made of the oil would be to start the combustion but this requires very little combustible material, a small lot of kindling being all that is commonly used. Once the furnaces are started they remain in service for a long time.

## Suggest Volatility Index for Light Hydrocarbons

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the 10, 30, 70 and 90 per cent distillation temperatures are plotted against the 50 per cent distillation temperature for 186 filling station gasolines collected during the fall of 1932. It is to be noted that in spite of extreme variations in the 10 and 90 per cent points for a given 50 per cent point there are relatively narrow ranges for the 30 and 70 per cent points. Still narrower ranges would be expected for the more critical 35 and 60 per cent points. From this it follows that, for refinery gasolines and for blends of refinery and natural gasolines, the 50 per cent distillation temperature adequately defines the effective volatility.

### Volatility Index

A convenient method of comparison on the basis of this suggested index of effective volatility is to define the volatility index as the difference between 284° F. and the 50 per cent evaporated temperature of the gasoline under test. The maximum permissible 50 per cent temperature for U. S. Motor Gasoline is 284° F.

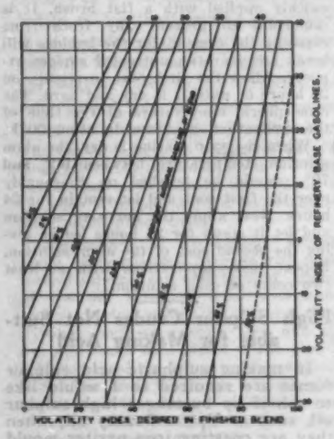


*Figure 2.—Chart for blending natural gasoline or vapor recovery gasoline at refineries to raise the volatility index of refinery gasoline*

The suggested numerical system has the mental advantages of simplicity and of increasing in the direction of superiority.

The volatility indices of the several gasolines for which Federal specifications are in effect are shown in Table 4.

TABLE 4—MINIMUM VOLATILITY INDICES OF THE SEVERAL FEDERAL GASOLINES

| Gasoline— | Minimum volatility index |
|---|---|
| U. S. Motor | 0 |
| Motor Fuel V | 27 |
| Domestic Aviation | 63 |
| Fighting Aviation | 72 |

Figure 2 presents a blending chart showing the per cent of natural gasoline (and/or vapor recovery gasoline) to be used with various base refinery gasolines to obtain a desired increase in the volatility index of the finished product.

The volatility index, as herein described, is as close to a definition of the effective volatility of a motor fuel as a single factor can be. As a manufacturing control point it offers the advantage of an intelligent utilization of the present surplus of light hydrocarbons with which the refining industry is confronted. With proper safeguards it provides a sounder basis for seasonal control of quality than has heretofore been proposed. As a sales point, the volatility index provides a tangible definition of "high test" gasoline. It has the possibility of eliminating the use of gravity as a commercial requirement and as a means of appraising the effective volatility of motor fuels. The volatility index would be a severe handicap to kerosene and naphtha blends where more than 60 per cent of the latter were used.

Among commercial motor fuels differences in the volatility indices are responsible for most of the variations in performance which are immediately perceptible to the motorist. It seems foolish to stress gravity, endpoint, 10 per cent point, and even octane number, with such a vital factor as the volatility index available for exploitation.

TABLE 3—RELATIVE EFFECTIVENESS (GASOLINE A = 100%) IN ACCELERATION OF GASOLINES B AND C FOR SEVERAL MIXTURE TEMPERATURES

| Mixture temp. (° F.) | Minutes after cold engine start for atmos. temp. of° 0° F. | 30° F. | 60° F. | 90° F. | Relative effectiveness in acceleration Gasoline B | Gasoline C |
|---|---|---|---|---|---|---|
| 52 | 2.5 | 0.2 | .... | .... | 96 | 99 |
| 55 | 5.0 | 2.0 | 0.4 | .... | 100 | 103 |
| 122 | (†) | 20.0 | 6.0 | 3.5 | 106 | 114 |
| 150 | (†) | (†) | 14.0 | 5.7 | 108 | 112 |
| 181 | (†) | (†) | (†) | 16.6 | 110 | 110 |

*For cars without shutters. †Mixture temperature not attained.

### Literature Cited

[1]Alden, The Oil and Gas Journal, March 5, 1931, Figure 3.
[2]Hill and Dean, Bulletin 191 (1920), U. S. Bureau of Mines.
[3]U. S. Army Air Corps, Specification Y-3557F (Oct. 18, 1932).
[4]Brooks and Bruce, S.A.E. Journal, Vol. 26, 474 (1930).
[5]Brown, Engineering Research Bulletin No. 14, May, 1930. [6]Pages 168-174, Figure 78. [7]Pages 4 and 5.

## Manufacturers Change the Design of Engines

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at the higher operating temperatures, and that fuels be used which are completely vaporized at the higher operating temperatures. Since modern motors limit the amount of heat supplied to the intake manifold and some reduce or limit the accelerating charge when the motor is warmed to operating temperature it is believed that these facts are thoroughly appreciated by the motor car manufacturers who are designing and building motors capable of handling to advantage the more volatile fuels now available from the combined production of natural gasoline plants and refineries.

For estimating the effective volatility of fuels, the mixture temperature at which the fuel is completely volatile is approximately equal to one-half of the temperature in degrees Fahrenheit of the 90 per cent point on the A.S.T.M. distillation.

### Vapor Lock

One of the most important limitations to the use of highly volatile fuels is the tendency for many cars to vapor lock when using fuels of high vapor pressure. In an effort to heat the carburetor and manifold in order to improve the vaporization of the fuel, engine manufacturers have allowed excessive heat to reach the liquid fuel line and the liquid fuel in the bowl of the carburetor. When fuels of satisfactory starting characteristics are used under these conditions the fuel vaporizes in the fuel line or bowl of the carburetor. Since the volume of gasoline vapor is approximately 180 times that of equal weight of liquid fuel, it is obviously impossible for the fuel pump and the passages of the carburetor to pass enough gasoline vapor to obtain an explosive mixture. A relatively small amount of vapor, usually about 1 or 2 per cent of the fuel, will usually so limit the flow of fuel that the motor does not perform properly. Any further vaporization of the fuel in the liquid line restricts the flow of gasoline so that the mixture supplied to the motor becomes nonexplosive and the motor ceases to function.

The obvious remedy of this difficulty is proper design of the fuel system so that the liquid fuel receives a minimum amount of heat from the motor, and in the ideal case is not heated above atmospheric temperature. Until this condition is approached in commercial cars it is necessary that the vapor pressure of the motor fuel be limited so that it will not form appreciable amount of vapor at atmospheric pressure and at the temperature to which it may be heated in the fuel system.

Not only have the manufacturers of current models limited the amount of exhause heat that may be supplied to the intake manifold thereby limiting the maximum temperature reached in the carburetor, but the capacity of the fuel pump has been steadily increased with the result that relatively large quantities of vapor which might form in the fuel lines can now be handled in a fairly satisfactory manner without difficulty due to vapor lock. With a little more care in locating the fuel lines it seems probable that fuels of considerably higher vapor pressure incorporating larger percentages of the butane and pentane fractions may be used in the future without fear of vapor lock.

At present fuels with Reid vapor pressures of from 10 to 15 pounds per square inch at 100° F. are marketed with entire satisfaction and it may be expected that these limits will be raised by about 5 pounds so that fuels having Reid vapor pressures at 100° F. of 15 to 20 pounds may be used with entire satisfaction if only a little more care is shown in locating and designing the fuel systems of the motor cars.

## By-Products Obtained in Manufacturing Volatile

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made from natural gas was carbon black, valued as the color base in the preparation of printers' ink and paint, but now consumed in large quantities in the manufacture of rubber goods and automobile tires to increase the wearing qualities. The quantity of carbon black incorporated in automobile tires may vary between 25 and 45 per cent of the weight of the mixture. Carbon black was first added to the rubber mixture simply as a coloring substance, its reinforcing value being later discovered. The use of carbon black in this way results in an estimated saving in the tire bill of over $500,000,000 annually.

It is necessary to burn the gas to obtain this product, so large quantities of useful hydrocarbons have been lost through the manufacture of carbon black; fortunately carbon black may continue to be made from the residue gas after all other commercial products have been extracted.

### Other Hydrocarbons

The hydrocarbons remaining in both natural gas and refinery gas after the extraction of gasoline constitute a source of many substances which are of value in the arts. The development of natural gasoline, with the recovery of the propane and butane, has led to the preparation of a number of other substances, some of which may be listed. Each of the liquids named is composed for the larger part of the hydrocarbons mentioned, they all have a good odor, are negative to the doctor test and noncorrosive.

Normal pentane, boiling between 82° and 100° F., gravity 92° A.P.I., vapor pressure (Reid) 15 pounds at 100° F. Residue upon evaporation, a trace.

Normal hexane, boiling between 140° and 160° F., gravity 75° A.P.I., vapor pressure 5.5 pounds at 100° F.

Normal heptane, boiling between 186° and 212° F., gravity 62° A.P.I., vapor pressure 0.5 pound at 100° F., flashpoint, closed cup, 12° F.

Mixed heptanes, boiling between 170° and 240° F., gravity 65° A.P.I., flashpoint, closed cup, 2° F., vapor pressure 1.5 pounds at 100° F.

Mixed octanes, boiling between 212° and 284° F., gravity 60° A.P.I., flashpoint, closed cup, 32° F.

Petroleum ether, which may consist of a mixture of pentanes and hexanes, ranging in boiling points from 86° to 170° F., gravity 70° to 90° A.P.I., and vapor pressure 4 to 15 pounds at 100° F.

These hydrocarbon liquids are excellent solvents for gums, waxes, rubber and other substances. Large quantities are used as thinners and nitrocellulose lacquers, either alone or in combination with coal tar derivatives. They are free from poisonous properties, consequently are receiving preference when a choice is possible over such dangerous solvents as toluol. All of these products may be separated from the hydrocarbon gases by mechanical methods, but when special heat treatment and chemical action is introduced a host of useful substances may be obtained.

### Products From Pyrolysis

If a petroleum gas is subjected to treatment at high temperatures the numerous decomposition products formed add to the chemical possibilities. The U. S. Bureau of Mines station at Bartlesville, Okla., has made a study of pyrolysis and has commented on the extensive possibilities for the preparation of numerous compounds. The following is from their report:

"When methane is subjected to temperatures of 1,800° to 2,200° F. it breaks up or 'cracks.' At slightly lower temperatures the parts reunite, but form new products as they combine. The higher hydrocarbon gases also break up and reunite to give various products different from the parent substances. At sufficiently high temperatures the gases will decompose to carbon and hydrogen.

"In either type of cracking hydrogen is always set free and by suitable means can be isolated and used commercially. Its major uses are as a reducing agent in the process industries; the hydrogenation of mineral and vegetable oils and coal; the synthetic production of ammonia and fertilizers; and as a refrigerant.

### Other Gases Formed

"Other gases formed in the pyrolysis of natural gas are acetylene, butadiene, ethylene, propylene and butylene. Acetylene is used in welding and cutting metal; and may be used to prepare acetaldehyde, which is further used in silvering mirrors or in the preparation of medicinals such as chloral, a soporific. Butadiene, under proper treatment, condenses to form an artificial rubber having the same general composition as natural rubber. Ethylene has recently come into use in ripening fruits. It is also finding use as an anesthetic. However, its major use at present is the synthesis of ethylene glycol, an antifreeze for water-cooled motors, and the basis for a series of important lacquer solvents. If desired, ethylene may be converted to ethyl alcohol, widely used as a solvent, also in the preparation of other compounds such as ether. Again by the proper reaction with chlorine, ethylene chloride is formed. This is a valuable solvent, especially for fats and essential oils, and is also used as an anesthetic. Propylene finds use as anesthetic, and also in the synthesis of isopropyl-alcohol, which is being substituted for ethyl alcohol with good results in certain instances. Butylene is also used in the preparation of certain butyl alcohols, which are finding use as solvents in the chemical industries.

"The principal liquids formed in the pyrolysis of hydrocarbon gases are benzene, toluene and xylene. Benzene is a very valuable product and forms the basis of many chemical processes. Thus are obtained anilene and the entire series of anilene dyes, and many explosives, perfumes and medicinals. In addition, benzene is an excellent solvent and antiknock motor fuel. Toluene is the basis of the familiar T.N.T. (trinitrotoluol) of dyes, and of saccharin, a sugar substitute 400 times as sweet as sugar. Xylene is similarly used in the synthesis of dyes and other products, and also to a large extent as a solvent.

"The solids resulting from pyrolysis are chiefly naphthalene and anthracene. Naphthalene is well known as an insecticide in the form of moth balls. It is also the basis for the important indigo dyes. Anthracene is used in the synthesis of alizarin dyestuffs. Finally, under certain conditions of cracking, there is obtained carbon black."